

RED STAR RISING?

HOW WILL DEFENCE-INDUSTRIAL OUTPUT SHAPE THE
RUSSIAN ARMED FORCES TO 2030?

RSI REPORT | MARCH 2026



EAG

EASTERN ADVISORY
GROUP

EXECUTIVE SUMMARY	1
INTRODUCTION	2
DEFENSE-INDUSTRIAL CAPABILITIES BY BRANCH OF PRODUCTION	3
RECONSTITUTION WITHOUT TRANSFORMATION	26
CONCLUSION	31
ABOUT THE AUTHOR	32



THIS PUBLICATION WAS FUNDED IN 2025 BY THE RUSSIA STRATEGIC INITIATIVE, U.S. EUROPEAN COMMAND. THE VIEWS EXPRESSED IN THIS PUBLICATION DO NOT NECESSARILY REPRESENT THE VIEWS OF THE DEPARTMENT OF WAR OR THE UNITED STATES GOVERNMENT.

Executive summary

- Russia is reconstituting mass but not transforming the quality of its defence-industrial production. Across nuclear forces, naval construction, aerospace production, long-range strike systems, armour and artillery, a consistent pattern emerges of incremental renewal, heavy reliance on refurbished and stored Soviet-era equipment, and adaptation to sanctions through partial substitution and re-routed supply chains.
- Russia's defence industry has proven more resilient than widely anticipated in 2022. It has absorbed very high battlefield losses while sustaining output in key categories. However, this resilience is built on finite inherited capital—aging stockpiles, constrained shipyards, limited machine-tool capacity and a demographically pressured workforce—and on continued access to foreign components through permissive trade networks. By capability area, the outlook to 2030 is mixed.
- Strategic nuclear forces will remain credible and survivable, with continued gradual modernisation of ICBMs and ballistic-missile submarines and SLBMs. However, the trajectory is evolutionary rather than transformational, with Russia focused on maintaining parity, rather than pursuing a meaningful expansion of its forces.
- The navy will remain strongest in the undersea domain, while ambitions for a balanced blue-water surface fleet are constrained by shipyard capacity constraints.
- Aerospace forces are likely to retain large nominal inventories, but fleet modernisation will be uneven and operational availability increasingly shaped by component bottlenecks and rising strains on maintenance.
- In conventional long-range strike, Russia has adjusted its industrial production most visibly. It has combined steady missile production with large-scale output of cheaper one-way attack drones to create a mixed-salvo model designed to saturate air defences. This model is industrially rational and likely sustainable, provided supply chains for dual-use components remain intact.
- On land, the armoured fleet and artillery arm illustrate the character of Russia's wartime regeneration: heavy refurbishment of stored vehicles and guns, the gradual erosion of quality, and the growing dependence on legacy systems. Russia can probably sustain large numbers of fielded platforms through 2030, but at rising cost and with widening performance gaps relative to NATO's most modern equipment.
- Foreign partners are central to Russia's defence-industrial ambitions. China functions as the indispensable hub for dual-use components, industrial machinery and the general architecture of international trade (e.g., payments). Iran has provided a template for scalable, sanctions-resistant drone production. And North Korea has reportedly supplemented ammunition stocks. These relationships enabled a high degree of endurance but have not eliminated structural industrial constraints that continue to blight the defence sector. Russia's reconstitution is therefore based less on industrial transformation at home, and more on a dependence on a small number of key external partners.
- Overall, by 2030 Russia is likely to produce sufficient equipment to field armed forces that remain numerically large and able to threaten NATO's eastern flank. Yet military reconstitution is unlikely to be accompanied by any broad-based qualitative breakthroughs. The decisive variables will be: (1) whether output exceeds battlefield losses; (2) how long the refurbishment of legacy platforms can continue given the depletion of inventories; and (3) how durable foreign-enabled supply chains will prove.

Introduction

This report examines the trajectory of Russia's defence-industrial base from the eve of the full-scale invasion of Ukraine in 2022 to the end of the present decade. It is structured around a set of core research questions. First, what defence-industrial capabilities does Russia possess today, and what capabilities is it likely to retain or develop by 2030? Second, which capabilities are likely to be missing, degraded or structurally constrained by that date? Third, what role will foreign partners—most notably China, but also Iran and North Korea—play in augmenting Russia's domestic production capacity? Finally, how will this evolving mix of strengths and weaknesses shape Russia's ability to reconstitute its armed forces, sustain high-intensity war in Ukraine, and pose a military threat to NATO? And, finally, what policies might the Kremlin adopt to mitigate its weaknesses while exploiting its enduring advantages?

The central argument of this report is that Russia is successfully reconstituting *mass* but not transforming the *quality* of its military forces. Across nuclear forces, naval construction, aerospace production, long-range strike systems, armoured vehicles and artillery, the pattern is consistent: incremental renewal, heavy reliance on refurbishment and legacy stockpiles, and adaptation to sanctions through selective import substitution and the reconfiguration of international supply chains.

Russia's defence industry has proven more resilient than many anticipated in 2022. It has increased output in key categories, absorbed extraordinary battlefield losses, and reorganised supply networks to secure critical components. However, this resilience rests on finite inherited capital—Soviet-era equipment stocks, ageing industrial plant, and a labour force that is creaking under growing demographic strains—and on continued access to foreign inputs through permissive or weakly enforced trade corridors. The likely outcome by 2030 is therefore military reconstitution without qualitative transformation: a force that remains large, dangerous and capable of sustained attrition in several key areas, but one that will struggle to achieve decisive and broad-based technological advances.

The report is organised in two main parts. Section One assesses defence-industrial capabilities by branch of production. Each chapter examines three temporal benchmarks: the pre-war baseline in early 2022; the position at the end of 2025 after several years of sustained, high-intensity combat; and the likely position in 2030 if current production, repair and refurbishment trends persist. The analysis covers strategic nuclear forces; naval shipbuilding; aerospace production; conventional long-range strike systems; the armoured fleet; artillery; and the defence-industrial supply chain. Particular attention is paid to the interaction between battlefield attrition, industrial production, and the drawdown of inherited stockpiles.

Section Two turns from defence-industrial production to examining what industrial capabilities are likely to mean for Russian power. It evaluates how a reconstituted—but not fundamentally modernised—industrial base will shape Russia's future force structure and operational options. It assesses the implications for Russia's ability to sustain the war in Ukraine, rebuild combined-arms formations, and threaten NATO's eastern flank. It also considers likely Kremlin policy responses, which include deeper state direction of heavy industry, the expansion of stockpiling, intensified import substitution, and further integration with foreign partners.

Taken together, the analysis suggests that by 2030 the defence industry will enable Russia to remain a formidable military power in quantitative terms. But its trajectory will be defined less by broad-based technological innovation than by the incremental expansion of older designs and industrial facilities.

1. Defence industrial capabilities by branch of production

Each sub-section examines where different branches of Russia's armed forces and its defence industry stood on the eve of war in early 2022; where it likely stands at the end of 2025 following four years of sustained, high-intensity combat in Ukraine and increased output and refurbishment; and where it is likely to be by 2030 if current production, repair, and refurbishment rates persist.¹

Russia's strategic nuclear forces: constrained modernisation

If the war in Ukraine has largely been fought with artillery, aerial drones, and attritional land combat, Russia's nuclear forces have served a different but no less important function: strategic signalling. They have not been used in battle, but they have framed the escalation boundaries of the war. Crucially, its nuclear capability provides the backdrop against which Moscow calculates risk, signals resolve and deters deeper Western involvement. The arsenal underpins Russia's ability to wage a prolonged conventional war while reminding adversaries that the ultimate stakes remain existential.

However, beneath the rhetoric, Russia's strategic nuclear modernisation tells a more prosaic story. Rather than a dramatic transformation, it reflects a pattern of continuity and rising industrial constraints. The central observation is that Russia is successfully modernising its strategic arsenal to preserve parity and survivability, but it is unwilling and unable to achieve a decisive quantitative or qualitative breakout.

2022: A modernised but evolutionary triad

At the outset of the full-scale invasion in 2022, Russia possessed the world's largest overall nuclear stockpile and a strategic triad that appeared, on paper, robust and substantially modernised. However, the metric that

matters for strategic stability is not total warheads in storage but deployed strategic systems.

Even as New START frayed and inspections were suspended, Russia's deployed strategic force remained broadly within treaty-shaped limits. Public estimates continued to place deployed strategic warheads around 1,550. This is roughly comparable to U.S. levels under the same ceiling logic.² This parity reflects Russia's long-term objective of maintaining assured retaliation, not pursuing numerical superiority.

The ground-based leg had already undergone a multi-decade transition away from aging Soviet liquid-fuel missiles toward solid-fuel systems, particularly the RS-24 Yars. The Yars family—both silo-based and road-mobile—offers improved reliability, easier maintenance, and multiple independently targetable re-entry vehicle (MIRV) capability. Crucially, MIRV deployment allows Moscow to increase warhead-loading flexibility without increasing launcher numbers. Modernisation has thus enhanced throw weight and targeting options while remaining within established launcher constraints.

At sea, the Borei-class ballistic missile submarines (SSBNs) represent the clearest success of post-Soviet nuclear renewal. Designed to replace older Delta-class boats, the Borei and Borei-A submarines carry 16 Bulava submarine-launched ballistic missiles each. Serial production has proceeded steadily, if not rapidly, and the sea-based leg increasingly anchors a survivable second-strike capability. In a world of degraded arms control and rising mistrust, survivability matters more than the quantitative expansion of the force.

In the air, Russia's strategic nuclear bomber force was formed entirely of refurbished Soviet-era variants of Tu-22M3 (Backfire), Tu-95MS (Bear-H), and Tu-160/M (Blackjack) aircraft. In numerical terms, the force comprised roughly 15–16 Tu-160/Ms, around 55–60 Tu-95MS variants, and several dozen Tu-22M3 bombers, although serviceability rates were uneven and all airframes were modernised Soviet-era platforms

¹ All quantitative ranges in this essay reflect the author's mid-range assessment of available open-source estimates and should be treated as indicative rather than definitive, given the absence of official Russian inventory disclosures and the inherent limitations of visual loss tracking.

² H. Kristensen, E. Korda, E. Johns, and M. Knight. 2025. Russian Nuclear Weapons 2025. *Bulletin of Atomic Scientists*, at: <https://thebulletin.org/premium/2025-05/russian-nuclear-weapons-2025/#post-heading>.

rather than new builds. Modernisation programmes, such as incremental avionics and weapons improvements to the Tu-95MS fleet had extended service life and enabled the integration of long-range cruise missiles such as the Kh-101. However, the only plan to expand the force came in the form of ambitions stated in 2020 to initiate serial production of new-build Tu-160M2 aircraft and deliver 10 aircraft by 2027.³ On the eve of the invasion, therefore, Russia possessed a credible air-launched leg of its nuclear triad, but one dependent on refurbishment and selective upgrade rather than new production on any scale.

End-2025: Modernisation under constraints

Four years into the war, little has changed: Russia's nuclear modernisation remains real but gradual, with the overall force being renewed, but not dramatically expanded.

On the ICBM side, the Yars transition continues, although silo conversions proceed slowly. Open-source assessments suggest that certain regimental upgrades have advanced at a tempo of roughly two missiles per year in some locations, hardly the tempo of a major force expansion.⁴ This is not evidence of weakness, but of a combination of self-imposed limitations and clear industrial constraints. Russia's defence-industrial base is under pressure from sustaining the conventional war in Ukraine, producing precision munitions, replenishing armour, and maintaining aerospace output. Nuclear modernisation competes for the same industrial bandwidth.

The war has not triggered a crash nuclear buildup. Instead, it has reinforced the importance of maintaining credible deterrence without incurring the economic and technical burdens of a full-scale arms race.⁵ Expanding

³ BMPD. 2021. 'Postroyka pervogo strategicheskogo bombardirovshchika Tu-160M2.' [Construction of the first strategic bomber, the Tu-160M]. September 1, at: <https://bmpd.livejournal.com/4386514.html>

⁴ Russian Nuclear Weapons 2025, *op. cit.*

⁵ US Defense Intelligence Agency. 2025. *Nuclear Challenges: The Growing Capabilities of Strategic Competitors and Regional Rivals*, at: [https://www.dia.mil/Portals/110/Images/News/Military Powers Publications/Nuclear_Challenges_2024.pdf](https://www.dia.mil/Portals/110/Images/News/Military_Powers_Publications/Nuclear_Challenges_2024.pdf)

⁶ Nastoyashcheye Vremya. 2025. 'Rossiya posle operatsii "Pautina" perebazirowala chast' bombardirovshchikov na

beyond existing deployed levels would require substantial new launcher production, expanded warhead manufacturing, and potentially new infrastructure, all of which are costly and strategically unnecessary for assured retaliation. So far, Moscow has shown no appetite for this and likely considers its existing capabilities as sufficient.

The naval leg is currently the leg that is enjoying the most renewal. The Borei programme continues to deliver platforms, and the Bulava missile—after early developmental problems — appears integrated into operational patterns. While the pace of submarine construction is not rapid by Cold War standards, it is steady enough to maintain the sea-based deterrent as the most survivable element of the triad.

The air leg, by contrast, was smaller at the end of 2025. This was partially due to the success of Ukraine's Operation Spider's Web carried out in June 2025, which resulted in anywhere between 10-20 Tu-95MS and Tu-22M3 aircraft being either destroyed or severely damaged.⁶ and to the failure of OAK to deliver new serially produced Tu-160M bombers, a commitment that was first made in the mid-2010s, but has yet to result in a single newly built variant being delivered. Although Defence Minister Andrei Belousov announced in December 2025 that two Tu-160M were transferred in the previous year, this was likely to have been a reference to modernised airframes rather than new production.⁷

The "Exotics": Signalling versus scale

Publicly announced by Vladimir Putin in 2018, the most politically visible elements of Russia's nuclear modernisation are the so-called "new" or "exotic" systems, notably Avangard and Sarmat.⁸ These

Dal'niy.' [Following Operation Spider Web, Russia relocated some of its bombers to the Far East]. 12 June, 2025, at: <https://www.currenttime.tv/a/bombardirovshchiki-pautina-aerodromy/33441032.html>

⁷ MilPres.ru. 'Nazvana dolya voyennykh raskhodov v Rossii.' [The share of military spending in Russia has been announced]. 18 December, at: <https://xn--b1aga5aadd.xn--p1ai/2025/%D0%9C%D0%B8%D0%BD%D0%BE%D0%B1%D0%BE%D1%80%D0%BE%D0%BD%D1%8B24/>

⁸ J. Cooper. 2019. *Russia's Invincible Weapons. Changing Character of War Programme*, at:

programmes, along with the Poseidon nuclear-tipped torpedo and the Burevestnik (Skyfall) nuclear-powered cruise missile, continue to loom large in Kremlin rhetoric, but their operational significance remains limited.⁹

The Avangard hypersonic boost-glide vehicle (HGV) has been deployed in very small numbers on modified UR-100NUTTH (SS-19) missiles since 2019. Its theoretical advantage lies in its ability to manoeuvre unpredictably during atmospheric re-entry, complicating missile defence planning. Strategically, however, missile defence has never posed a credible threat to Russia's second-strike capability at scale. Avangard's value is therefore primarily political and signalling-based: it ostensibly demonstrates technological sophistication and reinforces the narrative of Russian innovation. Numerically, however, it does not alter the strategic balance.

Sarmat, intended to replace the aging SS-18 heavy ICBM, illustrates the gap between the Kremlin's rhetoric and industrial reality. Announced as a next generation "super-heavy" missile capable of carrying multiple warheads and exotic payloads (including HGVs), Sarmat has encountered repeated testing setbacks.¹⁰ Developmental failures and schedule slippage suggest that the programme remains technically demanding and not yet fielded at meaningful scale.

The broader implication is not that Russia's deterrent is eroding. It is that the future shape of the force may be less a Sarmat-led transformation and more a Yars-led continuity combined with Borei-based survivability and Avangard-level signalling. The "revolution" in Russian strategic forces appears much narrower than advertised.

<https://www.ccw.ox.ac.uk/blog/2019/3/27/russias-invincible-weapons-an-update-by-julian-cooper>

⁹ D. Stefanovich. 2025. 'Chto izvestno o rakete "Burevestnik" i megatorpede "Poseydon"'. [What is known about the Burevestnik missile and the Poseidon megatorpedo?]. Profil.ru. 11 November, at:

<https://profile.ru/military/chto-izvestno-o-rakete-burevestnik-i-megatorpede-posejdon-1778194/>

¹⁰ The Insider. 2024. 'Ispytaniya rossiyskoy MBR «Sarmat» zakonchilis' vzryvom v shakhte — OSINT.' [Tests of the Russian Sarmat ICBM ended in a silo explosion — OSINT]. *The Insider*. 22 September, at:

Post–New START: Stability without formal limits

With New START expired, Russia faces choices. One path would be numerical expansion. Another is to maintain a treaty-shaped posture voluntarily while preserving breakout potential.

The available evidence suggests that Moscow has little incentive to pursue rapid quantitative expansion. A large-scale buildup would be expensive, industrially taxing, and strategically redundant.¹¹ Deterrence does not require superiority — only survivability and credibility. Moreover, arms race dynamics would strain an economy already burdened by sanctions, wartime expenditure, and defence-industrial bottlenecks.

Instead, Russia appears positioned to maintain a broadly stable deployed posture while modernising composition. The absence of inspections and data exchanges increases uncertainty, but it does not necessarily imply force expansion.

Implications for 2030

If current patterns persist, several reasonable projections can be made.

First, Russia will likely retain a deployed strategic force roughly in the vicinity of previous New START ceilings. The composition will shift further toward solid-fuel ICBMs and Bulava SLBMs deployed on Borei submarines, but launcher numbers are unlikely to surge dramatically.

Second, ICBM force modernisation will continue at a measured pace. Yars-class systems will gradually displace older Topol-M and Soviet-era missiles entirely,

<https://theins.ru/news/274761?ysclid=mmarlngsz6160127151>

¹¹ M. Kofman. 2026. 'Running to Stand Still: Russian Nuclear Modernization after New START.' *War on the Rocks*, February, at: <https://warontherocks.com/2026/02/running-to-stand-still-russian-nuclear-modernization-after-new-start/>

but silo conversion and infrastructure upgrades will remain binding constraints on any significant force expansion.

Third, the sea-based leg will remain the most dependable element of Russia's strategic deterrent. As long as submarine production and maintenance remain sustainable, the Borei force will underpin a credible second-strike credibility.

Fourth, exotic systems will likely remain artisanal capabilities rather than large-scale replacements. Unless Sarmat's technical challenges are resolved and production scaled—neither of which appears imminent—it will contribute incrementally rather than transformatively to the overall land-based leg of the triad.

Fifth, the air leg will not increase in size until serial production of new Tu-160M airframes begins. There is little evidence to suggest this will begin soon.

Conclusion: Continuity over transformation

Russia's strategic nuclear forces were credible at the start of 2022 and remain credible at the end of 2025. The war in Ukraine has not fundamentally altered that reality. What has changed is the political context: arms control has weakened, transparency has diminished, and the Kremlin's use of nuclear rhetoric has intensified.

Industrial realities, however, point to continuity in force size and structure rather than any imminent revolution. Modernisation proceeds through the substitution of older capabilities: Yars replaces older missiles; Borei consolidates the sea-based leg; Avangard provides technological drama in small numbers; and Sarmat remains a programme still seeking a reliable footing.

By 2030, Russia will almost certainly retain a formidable and survivable strategic deterrent. It will continue to be able to threaten catastrophic retaliation. But the evidence suggests that the oft-invoked image of a radically transformed triad is overstated. Instead,

¹² R. Connolly and A. Monaghan (eds). 2023. *The Sea in Russian Strategy*. Manchester University Press.

¹³ R. Connolly. 2023. 'The Russian Shipbuilding Industry.' In R. Connolly and A. Monaghan (eds). 2023. *The Sea in Russian Strategy*. Manchester University Press.

Russia's nuclear posture is evolving incrementally and is designed to preserve parity, credibility, and survivability in a system shaped as much by industrial limits as by strategic ambition.

Russian naval production: blue water ambitions; green water reality

If Russia's nuclear forces have framed the escalation boundaries of the war in Ukraine, its navy has revealed the limits of great-power symbolism under conditions of chronic industrial constraints.

Entering 2022, Russia could plausibly present its navy as a major instrument of power, at least in quantitative terms: it deployed large numbers of submarines, a substantial surface fleet, and had a tradition of projecting its maritime presence from the North Atlantic to the Mediterranean and beyond.¹² However, as with much of Russia's military posture, the true balance sheet lay not in headline hull counts but in deployability, survivability, industrial throughput, and geography.

Four years of war have exposed a navy that remains formidable in niches—above all in undersea warfare and, to a lesser extent, long-range strike—but continues to struggle to regenerate a balanced blue-water surface fleet. The maritime story of the war is therefore not merely operational; it is economic. It is a contest between the mass inherited from the Soviet Union and chronically constrained production capacity that has dogged Russia's shipbuilding industry for over three decades.¹³

2022: A navy built around submarines and status

On paper, Russia entered 2022 with what Russian officials liked to describe as the world's second- or third-most powerful navy by traditional metrics, particularly submarine numbers or destructive power.¹⁴ But these raw numbers masked severe structural imbalances.

¹⁴ Reuters. 2025. 'Putin approves big revamp of Russia's navy, Kremlin aide says.' *Reuters*. 9 June, at: <https://www.reuters.com/world/china/putin-approves-big-revamp-russias-navy-kremlin-aide-says-2025-06-09/>

Russian naval power has never been evenly distributed:

- **The Northern Fleet** has long been the strategic core. It hosts the ballistic-missile submarines that underpin nuclear deterrence, much of Russia's most capable nuclear-powered undersea force, and the bulk of its most capable surface vessels.
- **The Pacific Fleet** matters for regional presence and signalling, particularly vis-à-vis Japan and the United States, but operates at distance from the European theatre. It has also traditionally fielded fewer capable vessels than the Northern Fleet.
- **The Baltic Fleet** is much smaller, geographically constrained and heavily exposed to NATO's anti-access capabilities.
- **The Black Sea Fleet** was the most operationally exposed to the war, operating within range of Ukrainian shore-based missiles, combat aircraft, and, increasingly, unmanned maritime systems.

The economic logic of this structure is straightforward. Submarines—particularly nuclear-powered boats built at a small number of specialised yards—are expensive but generate disproportionate strategic leverage due to their survivability, stealth, and long-range strike capabilities (nuclear and conventional). They underpin deterrence and are difficult to neutralise.

Large surface combatants are also expensive, but unlike submarines they are visible, maintenance-intensive, and vulnerable to precision targeting. Russia's naval inheritance was therefore submarine-heavy not by accident, but by design and necessity. The Soviet legacy emphasised sea denial, strategic deterrence, and asymmetric leverage over global sea control.¹⁵

Pre-2022 production patterns reinforced this orientation. Investment flowed primarily into Borei-class ballistic-missile submarines and Yasen-M nuclear attack submarines, alongside smaller surface

combatants capable of launching long-range cruise missiles.¹⁶ Ambitions for large destroyers and building a new class or aircraft carrier remained largely conceptual.

End-2025: The limits of Russian naval power exposed

The most dramatic wartime shift has occurred in the Black Sea. Ukraine—without a conventional navy—demonstrated that shore-based anti-ship missiles, air-launched cruise missiles, and increasingly sophisticated unmanned surface vehicles (USVs) could systematically attrit a larger fleet.

Open-source trackers such as Oryx—which documents visually confirmed losses and damage—indicate significant confirmed Russian naval losses.¹⁷ By early 2024, credible summaries suggested that roughly two dozen Russian warships had been seriously damaged or sunk, including major surface combatants and at least one submarine. Ukrainian official claims run higher, but even the results from conservative tallies yield strategically meaningful results.

The importance of these losses lies not only in hull counts, but in behavioural adaptation. The Black Sea Fleet's centre of gravity shifted away from Sevastopol toward less exposed ports on the Russian eastern coast. High-value vessels reduced their operational exposure. Long-range strike increasingly relied on submarines and air-launched systems rather than surface ships operating near contested coastlines.

The lesson for Moscow was stark. In the Black Sea, a limited number of expensive platforms became hostage to a proliferating ecosystem of comparatively cheap, adaptive strike systems. Precision missiles and maritime drones altered the cost calculus.

Unlike tanks or artillery—where refurbishment and reactivation of stored hulls can sustain mass—naval regeneration is slow and capital-intensive. A landing ship sunk is not replaced from storage. It is replaced, if

¹⁵ M. McGwire, K. Booth, and J. McDonnell (eds) *Soviet Naval Policy: Objectives and Constraints*.

¹⁶ Connolly, 2023, *op. cit.*

¹⁷ Oryx. 2026. 'Attack On Europe: Documenting Russian Equipment Losses During The 2022 Russian Invasion Of

Ukraine.' <https://www.oryxspioenkop.com/2022/02/attack-on-europe-documenting-equipment.html?m=1>, accessed February 11th, 2026.

at all, by years of shipyard labour, specialised components, and skilled crews. Naval losses therefore carry much longer-term consequences.

The submarine force: The enduring core of naval power

If the surface fleet's vulnerability has been brutally exposed by the war in Ukraine, the submarine force remains Russia's most credible naval instrument. It is also where investment has continued despite the strains of wartime.

Official Russian reporting in 2025 claimed delivery of three submarines alongside 19 surface vessels.¹⁸ Open reporting points to the commissioning of an additional Borei-A ballistic-missile submarine and continued progress on Yasen-M nuclear attack submarines.¹⁹ This aligns with Moscow's stated long-term strategic priorities in which survivability and long-range strike matter more than a visible surface presence.

However, here too, industrial arithmetic intrudes on Russian ambitions. Sevmash—Russia's sole producer of nuclear-powered submarines—is a bottleneck.²⁰ Nuclear boat construction is technically demanding and labour-intensive. Consequently, slipway throughput is steady but limited in scale.

This matters for force structure in 2030. Russia can undoubtedly continue building relatively high-quality submarines. The question is over the tempo of production. Over a five-year horizon, even two or three boats per year (which would represent an increase in current rates of delivery) yield only incremental net growth once retirements, refits, and maintenance cycles are accounted for. The likely outcome is therefore not the rapid expansion of the fleet but its gradual renewal:

¹⁸ T. Shaidullin. 2025. 'VMF poluchil 19 korably i tri podlodki s nachala goda Yevtukhov soobshchil o peredache 19 korably i trekh podlodok.' *Vzglyad*. 18 December, at: <https://vz.ru/news/2025/12/16/1381278.html?ysclid=mmarrqhwn890155219>

¹⁹ *Ibid*

²⁰ M. Starchak. 2024. 'Sevmash completes upgrades to build Russia's next-gen nuclear subs'. *Defense News*, 28 March 2024, at:

newer Borei-A and Yasen-M boats entering service as older Soviet-era hulls are extended through overhaul.

As with the strategic nuclear forces, the pattern resembles gradual substitution rather than force expansion.

Strategy documents versus shipyard reality

In June 2025, President Vladimir Putin approved a naval development strategy extending to 2050, framed as restoring Russia's status as a leading maritime power.²¹ Such documents emphasise the importance of global reach, access to the Arctic, and blue-water capabilities. However, naval power is not produced in strategy papers. It is produced in shipyards, training pipelines, maintenance cycles, and supply chains.

The past several years suggest that the longstanding mismatch between aspiration and industrial capacity remains unresolved. Large capital ships require sustained investment and stable production ecosystems. Russia's experience since 2022—with sanctions, redirected defence spending, and battlefield attrition—has not improved the structural conditions required for rapid surface fleet expansion. If anything, the navy is likely to be the first to experience budget cuts if the financial resources for military reconstitution become scarcer.

Implications for 2030

Projecting forward, three dynamics are likely to dominate.

1. Submarines will remain supreme, but fleet growth will be incremental

Submarine production is likely to continue at a steady but constrained pace. Even optimistic commissioning

<https://www.defensenews.com/industry/2024/03/28/sevmash-completes-upgrades-to-build-russias-next-gen-nuclear-subs/>

²¹ Moscow Times. 2025. 'Putin Approves Russia's First Long-Term Naval Strategy Through 2050.' *Moscow Times*. 9 June, at: <https://www.themoscowtimes.com/2025/06/09/putin-approves-russias-first-long-term-naval-strategy-through-2050-a89381>

claims imply modest net change by 2030 once retirements and refits are included.

The composition of the fleet will gradually shift toward newer vessels, but the aggregate numbers will not surge dramatically. Russia will retain one of the world's largest submarine forces in nominal terms, yet much of its weight will still rest on a mix of new and extended-life Soviet-era designs. The undersea domain will remain Russia's strongest naval asset: survivable, strategically meaningful, and relatively insulated from the vulnerabilities exposed in the Black Sea.

2. The surface fleet will continue tilting towards smaller missile platforms

Wartime experience and industrial logic point in the same direction. Russia is likely to continue prioritising smaller surface combatants—corvettes, small missile ships, and frigates—over ambitious blue-water capital ships, if only because that is all it is capable of producing (even frigates appear to remain challenging).

Smaller platforms are cheaper, quicker and easier to produce, and can carry long-range cruise missiles that provide strategic effect disproportionate to hull size. Russia has already demonstrated that land-attack capability can be distributed across smaller vessels.

The war has also demonstrated that large surface ships operating within precision-strike range are high-risk assets. Without a step-change in air defence, electronic warfare, and fleet protection, Moscow's ambitions for a sustained global surface presence will remain constrained.

3. Protection and dispersal will compete with expansion for budgetary funds

A navy under sustained threat spends resources on hardening bases, improving air defences, enhancing electronic warfare, and dispersing assets. In this respect, Ukraine's campaign has incentivised investment in protection rather than force expansion.

Crucially, however, resources devoted to port defence, layered air defence, and maritime domain awareness are resources not available for new hull construction. The industrial trade-offs are unavoidable and likely to

further stymie Moscow's efforts at rebuilding a genuinely blue water navy.

Conclusion: Enduring strength, narrowed ambitions

Russia's navy at the beginning of 2022 was largely an inheritance. It was submarine-heavy, deterrence-focused, and symbolically ambitious at the surface level. By the end of 2025, it remains a serious maritime force—particularly underwater—and continues to commission new submarines.

But its credibility as a balanced surface fleet has been punctured by asymmetric attrition in the Black Sea. More importantly, its long-standing industrial constraints have not eased. Consequently, unrealistic ambitions continue to exceed industrial throughput.

By 2030, if current patterns persist, Russia will likely remain a formidable undersea and long-range strike naval power. It will retain the capacity to threaten NATO sea lines in the North Atlantic and project deterrent presence from the Arctic to the Pacific.

What it is less likely to achieve is a revitalised blue-water surface fleet capable of sustained global presence on par with its strategic rhetoric.

As with its nuclear modernisation, the trajectory is evolutionary rather than transformational. The future of Russia's navy will be written not in declarations of maritime resurgence, but in the output of a handful of shipyards, and in whether the next decade provides the industrial space necessary for regeneration rather than mere preservation.

Russian aerospace production: No signs of change

Russia began 2022 with what looked, on the balance sheet, like a formidable air arm: a deep inventory across fighters, strategic strike aircraft, and helicopters, backed by large fleets of transports and enablers.

On one count, the Russian Air Force (VKS) fielded (inter alia) 125 Su-34s, 350 Su-27/30/35s, 131 MiG-31s and 192 Su-25s, plus sizeable rotary-wing strength (notably 116 Ka-52s, 95 Mi-28s, 788 Mi-8/17/171s and

328 Mi-24/35s).²² This was the aircraft equivalent of Russia's pre-war ground forces: a mass of largely Soviet-era heritage platforms, selectively modernised, and supported by a defence industry that had learned to live with sanctions by prioritising repair, substitution and “good-enough” production. However, this force experienced significant losses, especially in the first year of the war, before the VKS adapted its tactics.²³

Four years later—by end-2025—Russia still appears to have much the same mass. FlightGlobal's 2025 directory (drawing on Cirium fleets data) records Russia with 4,292 military aircraft in total, and 1,522 combat aircraft, slightly higher than the prior year's listing.²⁴ The same source lists 2025 “active” inventories that are, again, broadly consistent with 2022: 142 Su-34s; 384 Su-27/30/35s; 128 MiG-31s; and a helicopter fleet still counted in the hundreds across Ka-52, Mi-28, Mi-24/35 and Mi-8 variants.²⁵ It is therefore evident that output has risen to a sufficient level to ensure that losses are replaced.

However, this apparent continuity conceals rising risks to Russia's aerospace forces. The relevant question is not how many tails Russia can list in a directory, but how many it can generate for sustained operations under combat attrition, maintenance stress, and a tightening technology embargo.

Russia's air power has not collapsed. Far from it. But it has been forced into a style of air warfare that is revealingly cautious: stand-off strike where possible, constrained close air support, and a persistent inability to translate numerical advantage into air superiority. The IISS put it bluntly in early 2024: Moscow's aerospace forces still had “no air of superiority”.²⁶

²² FlightGlobal, World Air Forces Directory 2022 (Russia entry: combat aircraft and combat helicopter inventories) at: <https://www.flightglobal.com/reports/world-air-forces-directory-2022/146695.article> Comparable numbers are given by IISS op cit.

²³ The performance of Russian air power during the war in Ukraine is discussed in: J. Bronk, *Russian Combat Air Strengths and Limitations: Lessons from Ukraine*, Arlington, VA: Centre for Naval Analyses, April 2023; I. Khan. 2023. ‘The Aerial War Against Ukraine: The First Six Months.’ FOI Briefing. Stockholm: FOI; and J. Bronk and J. Watling. 2022. ‘How the Russian Air Force Failed in Ukraine.’ *Geopolitics Decanted*. 17 November, at:

The pre-war baseline: large fleets and uneven readiness

Before 2022, Russia had quantity, but the readiness and modernity of the fleet were uneven. The headline combat inventory blended modernised fourth-generation types (Su-30SM, Su-35S), a workhorse strike fleet (Su-34/M), older aircraft with niche value (MiG-31), and legacy types increasingly living on borrowed time (Su-24, Su-25). In helicopters, it had mass—especially in Mi-8 and Mi-24 families—and increasingly relied on Ka-52 and Mi-28 variants for attack roles.

This structure matters because it dictated wartime resilience. Fleets built around large, “repairable” Soviet lineages were able to absorb losses longer than boutique high-tech inventories. Russia's aviation sector has always been better at extending the life of old platforms than at rapidly producing new ones.

End-2025: attrition amid stable inventories

Open-source visual evidence confirms substantial losses. Oryx's aircraft-loss documentation records, for Russia, 284 aircraft and helicopters lost in the course of the war (destroyed), including significant numbers in key categories: 41 Su-34s (plus 1 Su-34M), 20 Su-30SMs, 8 Su-35Ss, 66 Ka-52s, 19 Mi-28s, and dozens of Mi-8 variants, among others.²⁷ Not only are platforms lost, but they represent lost investment in trained crews, specialised maintenance ecosystems, and scarce avionics.

“Active” totals still look steady because Russia has leaned hard on three compensating mechanisms:

<https://rusi.org/explore-our-research/publications/external-publications/how-russian-air-force-failed-ukraine>

²⁴ FlightGlobal, World Air Forces Directory 2025 (analysis section: Russia total active fleet; combat aircraft by country), at: <https://www.flightglobal.com/defence/2025-world-air-forces-directory/160846.article>

²⁵ FlightGlobal, World Air Forces Directory 2025 (Russia entry: platform counts for fixed- and rotary-wing types).

²⁶ IISS, “Moscow's Aerospace Forces: No air of superiority” (and references to deliveries in *The Military Balance 2024*).

²⁷ Oryx, “List of aircraft losses during the Russian invasion of Ukraine” numbers reported on Jan 30, 2026.

- **Steady rates of new production:** Contracts for aircraft production signed before and since the war began have ensured a steady rate of production for several workhouse airframes. For example, the Su-34 has borne much of the burden for Russian strike missions. Consequently, it has lost at least 36 since 2022. However, deliveries have ensured the overall fleet has continued to grow. Around 10 were delivered in 2022, 12-14 in 2023, and 14-16 in 2024; and (at time of writing in early 2026) 18-20 were delivered in 2025.²⁸
- **Repair, refurbishment, and “rotation out of deep storage”:** Russia can replace some airframes by returning older aircraft to service, especially for platforms with large Cold War legacies and existing spares ecosystems. This is easier for some helicopters (e.g., Mi-8, Mi-24) and for certain fixed-wing types (e.g., Su-24, Su-25) than it is for modern fighters, where sensors and avionics bottlenecks bite.
- **Accounting effects:** A directory can count an aircraft as active even if it is only intermittently flyable. Wartime tempo, battlefield damage, and the scarcity of spare parts push more aircraft into the “hangar queen” category. The effect is to preserve nominal inventory while hollowing out operational availability.

This is also where sanctions matter most. It is not that Russia cannot build aircraft. It can. Rather, the key point is that it will struggle to sustain high sortie rates and modernisation trajectories at the same time. Observing the delivery of platforms can conceal difficulties in accessing the electronics and machine tools that sit behind high-end aerospace manufacture and maintenance.²⁹

Rotary-wing aviation has suffered relatively more than fixed-wing aviation. Oryx’s visually confirmed losses include 66 Ka-52s, an extraordinary figure for a fleet

that, pre-war, was counted in the low hundreds. This a severe loss, both in quantitative and qualitative terms as the Ka-52 is one of the best tools Russia has for close battle.

Yet Russia’s helicopter arm is also where mass has cushioned the pain. FlightGlobal still lists in 2025: 135 Ka-52s, 94 Mi-28s, 323 Mi-24/35s, and 777 Mi-8/17/171s.³ Even allowing for “paper strength”, this is a huge pool. Moreover, Russia has procurement pipelines: long-term Mi-28NM contracts were publicly discussed as providing 98 helicopters by 2027, and Ka-52M modernisation contracts have been repeatedly signalled. Such contracts do not guarantee delivery at scale but they do indicate that the state has made helicopters a priority category, probably because they are both tactically valuable and industrially more scalable than advanced fast jets.

Implications for 2030

The right way to think about 2030 is not “collapse versus recovery”, but instead in terms of managed adaptation under chronic and rising constraints.

First, Russia will probably retain a large nominal fleet, but that fleet will be skewed towards older platforms. Soviet-era variants will linger because refurbishing them is easier than replacing them. It is reasonable to expect continued reliance on Su-24/25-era mission sets where survivable, but with a growing dependence on stand-off weapons and aerial drones to reduce their exposure.

Second, Russia’s “sharp edge” will be sustained, but not expanded. The Su-34 is the clearest case: production rates appears sufficient to keep numbers broadly stable despite relatively high losses since 2022. For the Su-35/Su-30 families of multi-role fighters, Russia can probably continue modest replacement, but the constraint is less the airframe and more the supply chain

²⁸ See: J. Bronk. 2026. The Evolution of Russian and Chinese Air Power Threats. RUSI, at: <https://www.rusi.org/explore-our-research/publications/insights-papers/evolution-russian-and-chinese-air-power-threats> These calculations approximate those of the author for 2022-24. The author’s own

calculations, based on deliveries of batches reported in the Russian media.

²⁹ E. Salisbury, *Wings Still Clipped? Russia’s Airpower after Three Years of War*, at: <https://www.kcl.ac.uk/warstudies/assets/kcl-fasi-paper31-wings-still-clipped-web.pdf>

behind engines, avionics and radars, precisely the areas most sensitive to export controls.

Third, the helicopter fleet remains large, but its quality will be triaged. Russia can probably keep substantial Mi-8 and Mi-24 numbers going through overhaul cycles, and it will prioritise Ka-52M/Mi-28NM lines as far as components allow. But the experience of heavy Ka-52 attrition implies doctrinal evolution: fewer “heroic” forward helicopter tactics, more employment of standoff weapons, and greater reliance on UAV reconnaissance and massed artillery.

Fourth, the decisive variable is not production alone; it is operational demand. If the war remains high in intensity through the late 2020s, aircraft will be consumed not only by in combat losses but also by fatigue: airframe hours, maintenance cannibalisation, and the slow corrosion of readiness. Conversely, a lower-intensity conflict (or a ceasefire) would allow Russia to rebuild mission-capable rates without necessarily growing fleet totals.

Put differently, by 2030 Russia will almost certainly still possess a large air and helicopter fleet in nominal terms. The question is whether it will possess a modern and *sustainably employable* one. The evidence to date suggests a defence industry that can keep the show on the road—through steady small-batch production, aggressive repair, and a willingness to accept quality trade-offs—but not one that can easily leap to a new generation of capability while fighting a grinding war.

Russia’s conventional long-range strike complex: “Cheap mass” and the economics of saturation

Russia went to war in 2022 with a belief—never quite stated but clearly acted upon—that long-range precision strike could deliver decisive effects.³⁰ Four years on, however, Russia has not obtained decisive strategic effects. Instead, it has achieved something else: the creation of a strike system that is larger in scale and increasingly hard to defeat. The system rests on three pillars: a steady flow of “high-end” cruise and ballistic missiles; an industrial-scale stream of one-way attack

UAVs (Shahed/Geran); and a growing repertoire of decoys, mixed salvos and flight profiles designed to overwhelm the defender.

The right question, therefore, is not “how many missiles does Russia have?” but rather: how fast can Russia produce, refurbish, and stockpile these systems under sanctions, and what does that imply for Russia’s force structure in 2030?

The 2022 baseline: finite stocks, constrained production, and early rationing

At the start of the full-scale invasion, Russia possessed large inherited stocks of Soviet and post-Soviet cruise and ballistic missiles. But even early in the war, it became clear that inventories were not inexhaustible. Russia’s pattern of strike—large salvos, followed by lulls—suggested a need to reconstitute stocks between waves.

Contemporaneous assessments described production as meaningful but limited. One industry reference, for example, summarised that Russian officials in 2022 claimed capacity of roughly 40 Kalibr and Kh-101 missiles per month, with other sources giving lower ranges.

In other words, Russia began the war with a stockpile advantage, but with relatively limited rates of production. It had to learn—quickly—how to convert a defence-industrial base built for episodic procurement into one geared for sustained wartime replenishment.

Where Russia is by end-2025: a mixed-salvo machine

By the end of 2025, Russia’s strike campaign has become more systematic and more economically rational.³¹ The emphasis has shifted from “exquisite” strikes using small numbers of expensive ballistic and cruise missiles alone to combinations utilising a blend of expensive and cheap systems that complicate interception and drain Ukrainian air defence munitions.

³⁰ A. Monaghan.2025. *Blitzkrieg and the Russian Art of War*. Manchester University Press.

³¹ Bronk, *The Evolution of Russian and Chinese Air Power Threats*, *op. cit.*

A striking illustration comes from a regular monitoring project (Ukraine Air War Monitor), drawing on leaked Ukrainian HUR documents: Russia has increasingly focused on new production of “more modern cruise missiles such as the Kh-101, Kalibr, and Iskander-K,” and it estimates around 1,300 cruise missiles were used in 2025.³² This is important as it suggests Russia has substantially increased its rate of production.

The most concrete production-rate figures in the public domain come, inevitably, from Ukrainian intelligence leaks reported by reputable outlets. One frequently cited set of HUR estimates (published mid-2025) puts Russia at roughly:³³

- 60–70 Iskander-M (ballistic) per month
- 10–15 Kinzhal (aero-ballistic) per month
- 60–70 Kh-101 (air-launched cruise) per month

Another late-2025 report, again citing HUR, adds indicative monthly rates for cruise missile types:³⁴

- 20–30 Iskander-K (cruise) per month
- 25–30 Kalibr per month

These numbers should be treated with caution: intelligence estimates can be wrong, and incentives exist to emphasise, if not exaggerate, the scale of the Russian threat. However, their consistency across time is revealing and they align with the observed operational reality: Russia has proven capable of mounting regular, large mixed salvos, punctuated by pauses to rebuild stockpiles.

³² M. Welsch. 2026. *Ukraine Air War Monitor*, at: <https://www.kas.de/en/web/ukraine/blickpunkt-ukraine/detail/-/content/ukraine-air-war-monitor-vol-xi>

³³ *Ibid.*

³⁴ K. Hodunova. 2025. ‘Russia plans to produce nearly 2,500 high-precision missiles in 2025, military intelligence says.’ *Kyiv Independent*. 7 September, at: <https://kyivindependent.com/russia-plans-to-produce-nearly-2-500-precision-missiles-in-2025-hur-says/>

³⁵ Estonia Foreign Intelligence Service. 2026. *International Security and Estonia 2025*. January 2026, at: <https://raport.valisluureamet.ee/2026/en/>

Shahed/Geran: the new “cheap mass”

Shahed/Geran strike drones have not replaced cruise missiles, but they change the economics of air defence. Estonian intelligence assessed that Russia could be manufacturing up to c.2,700 Shahed-type drones per month in 2025.³⁵ By January 2026, public Ukrainian statements claimed an increase in production rates: President Zelensky said Russia could build c.500 Shahed-derived drones per day and ambitions of 1,000 per day.³⁶ These are extraordinary figures. It is unclear if they refer to peak capacity, include decoys, or reflect political messaging. However, they reinforce the core point that Russia’s strike complex is increasingly characterised by volume and saturation.

This leads us to the political economy of sanctions. Estonia’s 2025 national security report argued that China had become the key hub for smuggling Western components into Russia, with roughly 80% of foreign parts now entering via China.³⁷ This is central to Russia’s drone output. Missiles and long-range UAVs are electronics-heavy systems. If Russia can keep the parts flowing, it can keep production flowing, at least to “good enough” standards.

Implications for 2030

Looking to 2030, three broad propositions are defensible.

1. Russia can probably sustain high annual output, if inputs keep flowing

If the HUR-style monthly production bands roughly persist, Russia’s annualised output for core long-range strike munitions would be substantial: hundreds of Kh-101s, hundreds of Iskander variants, and significant

³⁶ T. Myronyshena. 2026. ‘Ukraine war latest: Zelensky says Russia produces 500 Shahed drones, dozens of ballistic missiles daily.’ *Kyiv Independent*. January 22, at: <https://kyivindependent.com/ukraine-war-latest-update-2026-01-22/>

³⁷ A. Sytas. 2025. ‘China aids Russian drone production with smuggled Western parts, says Estonia.’ *Reuters*. 12 February, at: <https://www.reuters.com/world/china-aids-russian-drone-production-with-smuggled-western-parts-says-estonia-2025-02-12/>

numbers of Kinzhals. Add mass drone production, and Russia can plausibly continue an air campaign that imposes huge costs on Ukraine, even if it has not yet proven strategically decisive.

The constraint is not just financial in nature. It is machine tools, microelectronics, inertial sensors, navigation modules, and propellants, plus the organisational competence to scale plants and manage quality. Here the evidence points both ways: Russia has expanded explosives capacity (a key input), while Western and Ukrainian reporting continues to find foreign components inside Russian strike systems despite sanctions.³⁸

2. The character of the threat will keep evolving toward mixed salvos and deception

Russia's current approach to the employment of strike systems is to mix missiles, drones and decoys to complicate interception. The rapid expansion of the Yelabuga drone production ecosystem highlights the existence of organised large-scale production for Shahed-derived drones that are likely to dwarf any comparable facilities elsewhere in the world.³⁹

In practice, by 2030 we should expect to see:

- more decoys and “spoofing” drones;
- more diversified launch geography and flight paths; and
- continued pressure on interceptors and radar coverage.

The objective of such a force structure is not elegance. Rather, it is attrition of the defender's air-defence industrial network.

3. There is likely a ceiling on “high-end” systems

Russia will likely find it easier to mass-produce one-way attack drones and incremental variants of existing missile families than to achieve rapid leaps in sensor

fusion, seeker technology and “next generation” precision and reliability. That is why the Shahed/Geran line is potentially transformative. It allows Russia to reserve higher-end missiles for priority targets or for moments when Ukraine's defences are thinnest, and to do so while still maintaining near-continuous pressure.

Conclusion

Russia's strike campaign in Ukraine offers a lesson in the difference between strategic effect and strategic sustainability. It has not yet broken Ukraine's will. But it has demonstrated Russia's ability to keep firing because it has built a production-and-procurement model suited to attrition.

The uncomfortable truth is that this is, economically, a rational adaptation. A cruise missile is costly and finite; a mass-produced one-way UAV is cheaper and abundant. By combining them and adding decoys, Russia now has a system designed to exploit the defender's weakest point: the high cost of interception and the scarcity of sophisticated interceptors.

By 2030, if sanctions enforcement remains porous and Russia continues to prioritise this mission, it is likely to retain a formidable conventional long-range strike complex, not necessarily because it is technologically superior, but because it has made volume a weapon. In a war of endurance, volume—backed by industry and supply chains—often counts for more than brilliance.

Russia's armoured fleet: From Soviet legacy to wartime regeneration

Russia's armoured fleet has long embodied the country's claim to be a great land power. Four years into its full-scale invasion of Ukraine, that legacy has been tested not only by tremendous battlefield losses, but by the more prosaic forces of economics, industrial capacity, and logistics. The story of Russia's tanks and armoured vehicles is therefore not merely a tale of battlefield attrition. It is a window into the sustainability

³⁸ See, for example: Kyiv School of Economics. 2025. *Disassembling the Russian War Machine: Logistics, Chokepoints, and Dependencies*. <https://kse.ua/wp-content/uploads/2025/07/KSEInstitute-RussianMIC-2.pdf>

³⁹ M. Krasnikov. 2025. ‘Fabrika smerti v Tatarstane: kak Rossiya prevrashchayet "Shakhedy" v oruzhiye dlya vsego

mira.’ [A Death Factory in Tatarstan: How Russia is Turning Shaheeds into a Weapon for the World]. Focus.ua. 28 July, at: <https://focus.ua/eksklyuzivny/716565-alabuga-rossiya-rasshiraet-proizvodstvo-dronov-shahed-v-tatarstane> and <https://edition.cnn.com/2025/08/08/europe/russia-drone-factory-iran-intl>

of a wartime economy, the limits of refurbishment over innovation, and the trade-offs that are likely to shape Russian military power well into the next decade.

The pre-war inheritance

On the eve of the February 2022 invasion, Russia possessed one of the largest armoured vehicle stocks in the world, the product of both huge Soviet-era industrial investment and post-Cold War neglect. The distinction that mattered was not merely between “tanks” and “armoured vehicles”, but between operational equipment and the vast hinterland of vehicles in long-term storage.

In active units, Russia’s ground forces fielded roughly 2,800–3,300 main battle tanks (MBTs) and around 10,000–12,000 infantry fighting vehicles and armoured personnel carriers (IFVs/APCs).⁴⁰ These figures reflected a force that had undergone selective modernisation rather than wholesale renewal. A growing share of frontline units had been equipped with upgraded variants, such as the T-72B3M, T-80BVM, and the newer T-90M. But the much-vaunted T-14 Armata remained a technological demonstrator rather than a fielded system.

Behind this operational layer sat the deeper strategic reserve of thousands of additional tanks and armoured vehicles stored in depots across Russia’s vast territory. Open-source and Western military assessments before the war commonly put total tank stocks at 6,000–8,000, with well over 12,000 IFVs and APCs in various states of storage. The condition of these vehicles varied widely. Some had been mothballed with a view to future refurbishment; others were viewed as little more than donor hulls for spare parts.

This structure reflected an assumption that mass could substitute for readiness in the event of a large-scale war. Russia had inherited a system designed for mass mobilisation in a large-scale continental war, not for sustained, high-precision, and high-loss combat. The

events of 2022–25 would expose the strengths and limits of that inheritance.

War as an industrial stress test

The first year of the invasion shattered any illusion that Russia’s armoured fleet could be expended sparingly. Losses mounted at a pace unseen in Europe since the Second World War. Independent visual confirmation projects documented thousands of destroyed or captured vehicles, including several thousand tanks.⁴¹ By late 2025, cumulative tank losses are likely to have reached well over 4,000 units, with total armoured vehicle losses—including tanks, IFVs, APCs, and other platforms—many times higher at around 10-12,000.

Despite these enormous losses, the Russian army did not collapse for lack of armour. Instead, it embarked on a process of industrial improvisation that has become a defining feature of its wartime economy.

Three key channels of regeneration emerged.

First, the refurbishment of stored vehicles became the backbone of replenishment. Facilities at Uralvagonzavod, Omsktransmash, and a network of regional repair plants stripped, rebuilt, and returned to service large numbers of Soviet-era hulls. Tanks such as the T-62 and even the T-55—long absent from frontline units—reappeared in secondary roles. IFVs and APCs followed a similar pattern, with MT-LBs and early-generation BTRs filling gaps left by losses of more modern platforms.

Second, deeply upgraded new production of existing types substituted for new design. The T-90M emerged as the flagship of this approach: a heavily modernised version of a late-Cold War platform, rather than a genuinely new generation. Annual production and upgrade rates for the T-90M have been widely estimated in the low hundreds (c.250-400), complemented by similar numbers of upgraded T-72B3M and T-80BVM tanks. Additionally, around 1000 BMP-3 IFVs have

loss database used to establish minimum confirmed losses of tanks and other armoured vehicles since February 2022. The numbers presented here are mid-range estimates – real numbers could be much higher (because they only include visually confirmed losses) or lower (some hulls may be double/mis-counted, captured hulls may be recaptured, etc).

⁴⁰ *IISS Military Balance 2021*. London and New York: Routledge. Baseline figures for pre-war operational inventories and subsequent assessments of Russian losses and regeneration capacity.

⁴¹ See Oryx (Oryxspioenkop), *Attack on Europe: Documenting Russian Equipment Losses in Ukraine*. Visual

been produced since 2022, as well as 1200 BTR-82 APCs.

Third, battlefield repair and cannibalisation extended the life of damaged vehicles. Recovery units and mobile workshops became as strategically important as production lines. In effect, Russia's armoured fleet became a circulating stock: damaged vehicles were pulled back, stripped, repaired, and returned, often multiple times.

The result, by the end of 2025, is a force that in quantitative terms still commands a large armoured inventory. In qualitative terms, however, its average age has risen, and the technological gap with NATO-equipped forces has widened.

Where the fleet stands at the end of 2025

If one includes both operational vehicles and those in storage that could plausibly be refurbished, Russia's total armoured vehicle stock at the start of 2026 can be reasonably estimated at within a range of around 19,000–21,000 units. This figure encompasses tanks, IFVs, APCs, and other armoured combat vehicles.

Within that total, the tank component is likely in the range of 4,000–5,000. Of these, perhaps 3,000 are in active service with frontline or reserve units at any given time. The remainder sit in depots, in various stages of refurbishment or long-term storage.

The IFV and APC inventory remains larger, in the order of 15,000–16,000 vehicles, with around 12,500 in active service and the remainder in service. But here too the composition has shifted. The share of modern platforms has fallen relative to older, simpler vehicles drawn from storage. The Russian army has, in effect, maintained numerical continuity at the expense of technological development.

This structure imposes costs. Older vehicles are more vulnerable to modern anti-tank weapons, less capable in networked operations, and, due to the age of components and the retirement of original production facilities, more demanding in maintenance. The burden

on logistics and repair units has grown accordingly. The armoured fleet that exists on paper is therefore not the same as the fleet that can be deployed rapidly and effectively.

Yet it would be a mistake to underestimate the strategic significance of sheer scale. Even a degraded armoured force of this size gives Russia options for territorial defence, internal security, and continued pressure along extended frontlines. It also complicates Western and Ukrainian planning, which must assume that losses can, at least for now, be replaced.

Implications for 2030

Projecting the state of Russia's armoured fleet to 2030 requires a sober assessment of production and repair capacity under conditions of sanctions, labour constraints, and rising fiscal pressures.

Open-source industrial estimates suggest that Russia can currently produce or deeply modernise between 300 and 500 tanks per year across all major plants.⁴² This figure includes new-built T-90Ms, as well as upgraded T-72 and T-80 variants. For IFVs and APCs, the annual throughput of new BMP-3 and BTR-82s is likely higher, but most deliveries to the army remain concentrated on refurbished models rather than new production.

Loss rates matter more than headline output. If Russia continues to experience high-intensity combat with annual armoured vehicle losses in the low thousands, production will struggle to ensure replacement, never mind prove sufficient to generate growth in the overall inventory. In that scenario, the fleet of 2030 will be shaped less by how many vehicles Russia can build, and more by how many usable hulls remain in storage to be drawn down.

Here lies the strategic inflection point. The Soviet inheritance of stored vehicles is not infinite. Each year of refurbishment draws from a pool that is both shrinking and deteriorating. The oldest vehicles—those that have spent decades in open-air depots—are increasingly costly to return to service. At some point,

⁴² Conflict Intelligence Team. 2025. *How Many T-90M Tanks does Russia Produce?* 19 June, at: https://notes.citeam.org/eng_t90

refurbishment ceases to be economically or technically viable.

Assuming current trends persist, three broad outcomes are plausible by 2030.

First, a plateau in total numbers. Russia is likely to maintain a total armoured vehicle stock in the range of 19,000–21,000 through the end of the decade. Losses will be offset by production and refurbishment, but not sufficiently to restore the much larger theoretical stocks of the early post-Soviet period. If the war in Ukraine drags on, the overall numbers are likely to be smaller.

Second, a bifurcated fleet. The frontline component will increasingly consist of a relatively small core of modernised vehicles—T-90Ms and late-model T-72/T-80 variants—surrounded by a much larger tail of older, less capable platforms used for territorial defence, second-line units, and support roles.

Third, rising opportunity costs. The fiscal and industrial resources devoted to sustaining this armoured mass will crowd out investment in genuinely new systems. Russia will remain strong in quantitative terms, but weaker when measured in quality.

Conclusion

From a US and allied perspective, the lesson is neither one of imminent Russian collapse nor of inexhaustible resilience. The armoured fleet tells a more nuanced story.

Russia has demonstrated an ability to absorb extraordinary material losses and continue fighting. This is a function of industrial adaptation, state prioritisation, and the legacy of Soviet-era stockpiling. It complicates any strategy that rests on the assumption that battlefield attrition alone will force a change in policy.

At the same time, the long-term trajectory is one of qualitative erosion. By 2030, Russia is likely to field an armoured force that is numerically large but technologically uneven, with a widening gap between its best and worst units. This has implications for deterrence, for the balance of power along NATO's

eastern flank, and for Russia's ability to project force beyond its borders.

The deeper point is that armoured vehicles are a proxy for something larger: the nature of Russia's wartime economy. Sustaining a fleet of this size requires not only steel and engines, but skilled labour, electronics, optics, and a steady flow of fiscal resources. Sanctions and export controls have not halted production, but they have raised its cost and constrained its technological ceiling.

By 2030, if current trends hold, Russia will still possess one of the largest armoured vehicle stocks in the world—perhaps around 20,000 units in total, including storage and reserves. But its character will have changed.

Artillery: the limits of the Soviet inheritance

Russia's invasion of Ukraine has been, in many ways, an artillery war: a contest of barrels, shells, drones and counter-battery fires. What matters is less the glamour of platforms than the grim industrial reality of sustaining thousands of guns that wear out, break, get hunted, and which must be replaced.

To understand where Russia's artillery will stand in 2030, it helps to separate three things Russia itself often blurs: (1) what is fielded, (2) what exists in storage, and (3) what is actually usable once barrels have been shot out, optics degraded, trucks cannibalised and crews exhausted.

2022: a gigantic inheritance

Before the full-scale invasion, Russia's advantage lay not just in the sheer number of guns deployed in frontline units, but in the Soviet-era "depth" behind them: tens of thousands of stored pieces across self-propelled and towed systems.

One useful starting point is the IISS-derived storage table reproduced by Jamestown, which tracks what

Russia reportedly had in store in the early 2020s.⁴³ For the systems most relevant to the war:

- Self-propelled artillery in storage (2022): 2S1 Gvozdika 2,000; 2S3 Akatsiya 1,000; 2S5 Giatsint-S 850; 2S19 Msta-S 150; 2S7 Pion 260.
- Towed howitzers in storage (2022): D-30 4,400; M-30 3,750; 2A36 Giatsint-B 1,100; 2A65 Msta-B 600; D-20 1,075 (plus smaller numbers of legacy pieces).

These were stored counts, not the active order of battle. But they reveal a critical point: Russia entered 2022 with an artillery inventory designed for mobilisation in a continental war, a model in which old equipment is not scrapped, but warehoused as a strategic asset. That inheritance mattered because Russia's invasion quickly became a war of attrition. In such wars, "new production" is rarely the main story. Instead, refurbishment and cannibalisation become much more important.

2023–end 2025: from “how many guns?” to “how many barrels left?”

By 2025, Russia's artillery force was showing signs of strain. It likely “fields” roughly 4,500-5,000 barrel artillery systems (a combined figure for guns/howitzers in use), and may have as many as 900-1,100 MLRS. It also has close to 8,000 towed artillery pieces overall, down from c.12,000 stored towed pieces at the beginning of the war, a sign that older pieces are being drawn down and cannibalised for barrels to keep frontline batteries operating.

These figures are revealing because they shift the analytical focus away from total inventories and towards deployable mass. Russia appears to have converged on a wartime equilibrium: maintaining enough guns in theatre to sustain continuous fire, while the rear-area industrial system drags additional pieces out of storage to replace losses and worn barrels.

⁴³ P. Luzin. 2024. *Russia Exhausts Soviet-Era Weapons Caches*, at: <https://jamestown.substack.com/p/russia-exhausts-soviet-era-weapons>

⁴⁴ Estonia Foreign Intelligence Service. 2026. *op. cit.* and Statement Of General Christopher G. Cavoli, United States

Between 2022 and 2025, stored numbers fell across many categories, particularly towed systems:

- D-30 storage drops from 4,400 (2022) to 2,200 (2025)
- M-30 from 3,750 to 1,600
- 2A36 Giatsint-B from 1,100 to 450
- 2A65 Msta-B from 600 to 150
- D-20 from 1,075 to 500

Self-propelled storage fell, too, although less dramatically in some types (and unevenly across categories), e.g. 2S3 Akatsiya from 1,000 to 650, 2S7 Pion from 260 to 120.

This suggests something like a process of pragmatic substitution is taking place, where when the war consumes modern self-propelled systems faster than industry can replace them, Russia compensates by (a) refurbishing older self-propelled pieces where possible, and (b) increasingly leaning on towed systems, improvised solutions, and greater use of UAVs, provided it can keep barrels and ammunition flowing.

That leads to the next constraint: ammunition and barrel wear.

On ammunition, Estonia's Foreign Intelligence Service estimated that Russia's stockpile inherited from the Soviet era was vast (around 20 million shells/rockets, with some expired but potentially refurbishable).⁴⁴ It also estimated that Russia has used 12–17 million units of artillery ammunition since the start of the invasion, and that annual production/refurbishment of artillery ammunition reached 7 million units in 2025.

Reuters reported in 2025 that Russia is expanding explosives production capacity on an industrial scale, including a new facility expected to produce 6,000 metric tonnes of high explosive annually, and cited Ukrainian intelligence estimates that Russia produced around 2 million 122mm/152mm rounds in 2024 and imported c.2.7 million from North Korea. It also quoted

Army United States European Command to Senate Armed Services Committee. 3 April, at: https://www.armed-services.senate.gov/imo/media/doc/general_cavoli_opening_statements.pdf

General Cavoli to suggest that Russia might be able to produce 250,000 shells per month (3 million a year).⁴⁵

These figures matter because the sustainability of deployed artillery is a question related to *systems*, not a simple count of available tubes. High rates of fire destroy not only targets, but barrels, which must be replaced. This process of replacement competes for the same machine tools, metallurgy and skilled labour needed to build new guns. The decline in stored towed artillery is likely to be driven at least partially by barrel cannibalisation.

Finally, battlefield attrition is not theoretical. Visual-loss projects (such as Oryx) document large losses of Russian equipment overall and provide relatively conservative, minimum bounds on what has been destroyed or captured. Even if the true totals are higher than visual confirmation, the implication is the same: Russia is paying for its artillery advantage with real, accumulating hardware losses and it is replacing them by liquidating stored capital.

Situation at the end of 2025 inventory

The most reasonable summary is:

- In the field: Russia is operating in the order of 4,500–5,000 barrel artillery systems (self-propelled and towed) at any given time, with self-propelled accounting for a minority.
- In storage: Russia still retains substantial stored artillery, but the trend points one way: large drawdowns in towed storage, and substantial declines in several self-propelled categories.

Russia's artillery advantage thus looks less like a permanent structural feature and more like the harvest of a vast but ultimately finite inherited stock, a stock that is being converted into present combat power at a rapid rate.

Implications for 2030

Projecting to 2030 means recognising that the decisive variable is not whether Russia can make artillery

systems — it can — but whether it can do so fast enough to replace barrels, replace destroyed systems, and modernise in parallel.

A useful starting point is Jamestown's storage series: it implies that for several major towed systems, Russia burned through roughly 40–50% of stored inventory in only two years (2022–2024). Other open-source assessments suggest this pace slowed but continued during 2025. If that pace continued linearly, many categories would be largely exhausted before 2030. Of course, wars are not linear. But the direction of travel is clear: storage is finite, and the quality of the force will continue to deteriorate over time.

That yields three broad conclusions, each grounded in industrial arithmetic rather than wishful thinking.

Scenario A: "Managed endurance" (most likely)

If the war continues at something like its current intensity and the military keeps prioritising artillery, it is plausible that Russia sustains a roughly steady fielded tube count in the 4,000–5,000 range through 2030, by continuing to pull platforms from storage and then either refurbishing or cannibalising them. But this comes with a price: deployed units will be characterised by a growing share of older towed and legacy self-propelled systems, and this will be accompanied by persistent pressure on barrels and spares. In other words, Russia will retain quantity at the cost of quality and ease of sustainment.

Scenario B: "Stock exhaustion meets barrel reality" (plausible by late decade)

The fact that stored towed systems are being cannibalised for barrels bodes ill for Russia. If barrel wear remains intense, storage continues to shrink, and sanctions keep constraining the acquisition of precision machine tools, Russia could find itself in a world where it still has many guns on paper but struggles to keep them mission-capable. This is the artillery equivalent of an ageing airline fleet: the tail numbers exist, but aircraft availability collapses.

⁴⁵ O. Yan. 2026. 'Secrets of the "State Defense Order": How Many Shells Does Russia Produce?' *Militarnyi.ua*. 16

January, at: <https://militarnyi.com/uk/articles/tayemnytsi-gosoboronzakaza-skilky-snaryadiv-vyroblyaye-rosiya/>

Scenario C: “Post-war reconstitution” (only if intensity drops)

If combat intensity drops markedly (i.e., in the event of a ceasefire or frozen conflict), Russia’s artillery system would become much easier to sustain. The ammunition figures from Estonian and Ukrainian military intelligence have highlighted Russia’s capacity to keep producing and refurbishing large volumes when given time to rebuild stocks. In this case, Russia could stabilise the fleet, improve readiness, and gradually modernise (including newer systems), even if the total number of tubes declines.

Conclusion

The story of Russian artillery is not one of imminent collapse. Nor is it one of inexhaustible power. It is, rather, the story of a state converting inherited Soviet stock into present battlefield effect, and using a wartime economy to slow, but not eliminate, the resulting rate of depletion.

By 2030, Russia is likely still to possess a very large nominal artillery inventory. However, the critical question will be whether it retains a large, deployable, and sustainable inventory.

In war, as in economics, the truth is often found not in the headline totals, but in the balance-sheet footnotes: depreciation, maintenance backlogs, and the moment when stored capital can no longer be turned into usable power. Russia’s guns have dominated the front up to the end of 2025. The open question is how long its inherited depth can keep the barrels firing.

The defence-industrial supply chain

Tanks, missiles and drones shape the direction of battles. But wars are sustained with bearings, chips, chemicals and steel. By the end of this decade, the most decisive front in Russia’s military reconstitution will not be the assembly line for weapons systems, but the quieter, more consequential struggle to secure the

components and materials that make those systems possible.

The war in Ukraine has reminded analysts that industrial depth holds the key to sustainable defence-industrial capacity. It is not enough to build a tank if you cannot source the optics that enable it to see, the microcontrollers that stabilise it, or the metallurgy that prevents its barrel from burning out after a few hundred rounds. For Russia, the challenge since 2022 has been to reorient its supply chains away from a dependence on Western components without causing a collapse in production in the process.

Six broad trends define how this effort is likely to evolve toward 2030.

1. Continued access to Western components through third parties

The first phase of sanctions produced significant disruption. The second generated a sustained period of adaptation. What began as an improvised response has become a more institutionalised dual-use procurement effort.

Despite allied sanctions, Russia’s defence industry continues to treat the global consumer and industrial electronics market as a strategic reservoir. Microchips designed for household appliances, automotive systems or telecommunications are repurposed for drones, guidance kits and basic avionics. The logic is not to match NATO’s most advanced systems, but to achieve functional adequacy (i.e., to be “good enough”) at scale.

State policies have formalised this approach.⁴⁶ State trading houses and semi-private intermediaries are being used to aggregate demand for electronics, sensors and machine tools, routing them through permissive jurisdictions (e.g., Central Asian states, the South Caucasus, and China) and free-trade zones (i.e., the Eurasian Union), as well as through traditional sources of supply, such as Belarus.⁴⁷ The effect is to blur the boundary between civilian and military supply chains,

⁴⁶

<https://www.rbc.ru/business/17/05/2024/66465d789a79475db1eac775>

⁴⁷ The Insider. 2025. ‘Belarus aids Russia’s missile production through microchip deliveries, investigation reveals.’ *The Insider*. 28 January, at: <https://theins.press/en/news/278300>

making enforcement more difficult and raising the political cost of comprehensive interdiction.

By 2030, this dual-use ecosystem is likely to be more centralised, more professionalised and more deeply embedded in Russia's industrial policy. Over time, these networks are likely to resemble less the patchwork of grey-market actors that emerged in 2022-23, and more a shadow logistics system with explicit state backing.

2. The return of heavy industry

A striking feature of Russia's wartime economy is the renewed importance of heavy, unglamorous sectors. Steel, aluminium, propellants, explosives, and basic chemicals have re-emerged as strategic assets, with all experiencing rapid growth in output and investment.

Artillery and missile production is, at its core, a chemical and metallurgical enterprise.⁴⁸ The expansion of explosives capacity and propellant production in 2024-25 reflects a recognition that the limiting factor is not always machining capacity, but energetics. Shells and missiles cannot be assembled if the chemical inputs are scarce or unreliable.

This has implications for the future direction of state policy. It is likely that we will see greater state direction of mining, refining and chemical production, with preferential energy pricing and transport access for firms deemed strategically important. The aim is not autarky in a pure sense, but the resilience of domestic defence-industrial capacity: enough domestic production to cushion supply shocks and enough diversified imports to smooth volatility.

The irony is that this pushes Russia toward an industrial structure reminiscent of its Soviet past, which, due to

'structural militarisation', prioritised defence-industrial output above all other sectors of the economy, even as it relies on global markets to make that structure work.⁴⁹

3. Import substitution

One of the more subtle trends is the adaptation to the limits of the domestic import substitution programme.⁵⁰ When high-grade components are unavailable or too costly, Russian firms increasingly redesign systems to accept lower-spec or off-the-shelf alternatives.⁵¹

This is visible in drones and guidance kits, where consumer-grade electronics replace military-grade parts, and in optics and communications, where performance is traded for availability. Over time, this produces a distinct design philosophy: weapons systems are built not around optimal performance parameters, but around what the supply chain can reliably deliver.

By 2030, this is likely to harden into a form of industrial path dependency. Russia will have families of systems optimised for its own supply ecosystem, rather than for integration into global high-tech standards. That may reduce peak performance, but it increases the security of supply.

Again, comparisons with the Soviet period are apposite: Russian defence-industrial production will likely operate far behind the global technological frontier in most systems, reflecting a domestic innovation system that will lag behind most areas of the global economy. However, this system, inefficient as it is, will be able to deliver sufficient volumes of "good enough" weaponry to its armed forces. Like their Soviet-era predecessors, it will be Russian citizens who pay the price in the form of lower standards and access to lower quality goods and services.

⁴⁸ RUSI. 2024. *Ore to Ordnance: Disrupting Russia's Artillery Supply Chains*. London: Royal United Services Institute. <https://www.rusi.org/explore-our-research/publications/external-publications/ore-ordnance-disrupting-russias-artillery-supply-chains>

⁴⁹ V. Shlykov. 1995/ 'Economic Readjustment within the Russian Defence-Industrial Complex', *Security Dialogue*, 26:1 and V. Shlykov. 2004. 'The Economics of Defense in Russia and the Legacy of Structural Militarization', in Miller, S. E. and Trenin, D. (eds) (2004), *The Russian*

Military: Power and Policy, Cambridge, MA: MIT Press, pp. 160-82

⁵⁰ M. Seddon. 2026. 'Russia struggles to shake reliance on foreign technology imports.' *Financial Times*. 3 February, at: <https://www.ft.com/content/80cd2d5a-9aa4-40a4-b0fc-a2d1080622f7>

⁵¹ A. Abdullina. 2024. 'Стадия окрыления проходит.' [The Winging Stage is Already Underway]. *Kommersant*. 9 August, at: <https://www.kommersant.ru/doc/6880281>

4. Geography as strategy

Supply chains have become more regionalised. Central Asia, the South Caucasus, the Middle East and parts of East Asia function as transit and transformation zones, places where goods can be re-labelled, re-certified, or lightly processed before entering Russia.

This geography matters politically. It embeds Russia's wartime economy in a web of commercial relationships that extend well beyond formal allies. For governments in these transit states, trade with Russia becomes a source of revenue and leverage, even as it exposes them to Western pressure.

The Kremlin's likely policy response is to deepen these ties through preferential trade agreements, infrastructure investment and favourable energy pricing arrangements, using economic statecraft to stabilise its supply corridors.

5. The labour and skills bottleneck

Components and materials are only as useful as the people who can work with them. Russia's demographic constraints and wartime labour losses have turned skills into a strategic resource.

It is reasonable to expect state policy to focus increasingly on technical education tied directly to defence clusters, as was the case during the Soviet period: metallurgy institutes linked to shell manufacturing plants, electronics programmes aligned with drone assembly hubs, and apprenticeship schemes embedded in state-owned enterprises. Labour mobility restrictions and targeted incentives may be used to keep scarce skills in strategic regions.

This will result in an industrial policy with a social dimension: shaping not only what Russia produces, but where and by whom.

6. Stockpiles as balance sheets

The final trend is the treatment of components and materials as strategic reserves. Just as Soviet industry mandated the stockpiling of large inventories of components and production materials, it is now likely to mandate inventories of chips, optics, chemicals and

spare parts so that they are available in the event of another war.

This is a financial as well as an industrial choice. Stockpiling ties up capital, but it reduces vulnerability to sudden interdiction. The Kremlin appears willing to absorb the fiscal cost in exchange for predictability.

Implications for 2030

By 2030, Russia's defence industry will likely be less dependent on any single supplier or country than it was in 2022. But it will be more dependent on the health of a complex, globalised grey economy.

This will be a form of strength and a form of weakness. It will allow Russia to sustain production under pressure from the West. But it will also make its defence economy sensitive to shifts in law enforcement, diplomacy and market incentives far beyond its borders. A change in policy in New Delhi or Abu Dhabi, for example, could force a painful and expensive reorientation of supply chains.

For Ukraine and NATO, the implication is clear: the contest over Russia's military power will increasingly be fought not only in the skies and on the steppe, but in ports, free-trade zones, export-control offices and industrial standards bodies. This quiet war over components and materials is unlikely to make headlines. Yet it may do more than any single battle to determine how long Russia can maintain a sizeable defence industry.

Foreign partners and Russia's defence industry

Wars of endurance are rarely fought alone. They are fought through supply chains, financial channels and via diplomatic means. By 2030, the most consequential question for Russia's military power will not be how many tanks it can refurbish or drones it can assemble, but how effectively it can plug its defence economy into a wider network of foreign partners willing—by government design or by the profit-seeking motives of individual firms—to keep critical inputs flowing.

The role of foreign partners in augmenting Russia's capabilities is therefore best understood not as an

alliance in the classic sense, but as a network of enablers. China, Iran and, to a lesser extent, North Korea do not need to provide Russia with entire weapon systems to change the strategic balance. They need only to ensure that Russia's industrial metabolism—its access to electronics, machine tools, explosives, propellants, and financial channels—does not seize up.

China: the indispensable hub

China's centrality lies in its position as the world's manufacturing clearing house. It is the place where dual-use components, industrial machinery and consumer electronics can be sourced, repackaged and routed onward. Western and Baltic intelligence reporting has repeatedly pointed to China as the principal transit hub for Western-origin microelectronics and precision components entering Russia's defence-industrial base.⁵² The point is not that Beijing ships weapons systems to Moscow in crates marked "military". It is that the scale, diversity and opacity of Chinese commercial networks make them an ideal medium for sanctions arbitrage.

For Russia, this matters most in four areas.

First, electronics and sensors. Missiles, drones, aircraft avionics and even modernised tanks increasingly depend on microcontrollers, navigation modules and optical components that Russia cannot reliably produce at scale. Chinese supply chains—directly or via intermediaries in Central Asia, the South Caucasus and the Middle East—have become the practical solution to this bottleneck. The result is not technological parity with advanced and more expensive NATO systems, but something more modest and more dangerous: technological sufficiency. Russia does not need the best chips. It needs enough chips that work well enough, often enough.

⁵² J. Leahy and C. Cooke. 2025. 'China-Russia: an economic 'friendship' that could rattle the world.' *Financial Times*. 15 May, at: <https://www.ft.com/content/19eb54ba-f6f7-48ba-a586-b8a113396955>

⁵³ P. Frankopan. 2025. 'China, Russia and the 'Dragon-Bear' embrace.' *Financial Times*. 5 July, at: <https://www.ft.com/content/52507a7a-5c47-417a-b3cc-d56bb6384665>

Second, machine tools and industrial equipment. The unglamorous backbone of defence production is the ability to cut metal accurately and repeatedly. Here too, China's role as a supplier of mid-range CNC machines and industrial hardware has become strategically significant. Even where Western export controls are effective, the availability of Chinese alternatives allows Russia to sustain production lines for missiles, artillery barrels and vehicle components, if not always to Western standards, then to tolerances that are "good enough" for wartime use.

Third, chemicals and energetics. Explosives production depends on a range of precursor chemicals and industrial inputs. The expansion of Russian explosives capacity reported in 2024–25 underscores a simple reality: scaling shell and missile output requires more than steel and labour; it requires a chemical industry that can source or substitute key inputs. China's vast chemical sector and its global trading networks provide a cushion against isolation.⁵³

Fourth, finance and trade plumbing. Payments, insurance, shipping and logistics have become as strategically relevant as factories. China's role in providing alternative payment systems, yuan-based trade, and shipping networks has given Russia breathing room as Western financial channels narrowed. The effect is not immunity from sanctions, but a reduction in friction that lowers the cost and risk of doing business for firms willing to operate in the grey zone.⁵⁴

For Beijing, this posture has been carefully calibrated. China avoids formal military alliances, but it has strong incentives to prevent a Russian collapse that would leave it isolated against a consolidated Western bloc. The result is a form of asymmetric interdependence: Russia depends more on China than China depends on Russia, but China benefits from a Russia that remains economically and militarily viable.

⁵⁴ M. Korobova. 2024. 'Dvoynoye no: Kitay snova uslozhnil prodazhu v Rossiyu tekhniki i khimii.' [Double but: China has again complicated the sale of equipment and chemicals to Russia.] *Izvestiya*. 29 November, at: <https://iz.ru/1798579/mariia-kolobova/dvoynoe-no-kitaj-snova-uslozhnil-prodazhu-v-rossiyu-tekhniki-i-himii>

Iran: the template for the production of cheap mass

If China is the hub, Iran serves as a model for how to produce large volumes of cheap weaponry under conditions of sanctions.

The transfer of Shahed one-way attack UAVs and the subsequent localisation of their production in Russia marks one of the most consequential shifts of the war. Iran did not provide Russia with cutting-edge technology. Instead, it provided a production philosophy: simple design, modular components, and a focus on volume rather than perfection. In this respect, Iran's value to Russia has already been proven.

By 2030, the significance of this is likely to extend beyond drones. The Shahed/Geran ecosystem has demonstrated how Russia can combine foreign design input, domestic assembly, and globally sourced components into a system that is resilient to sanctions and scalable under wartime conditions. It is not hard to imagine this logic being applied to other categories of military equipment, particularly decoys, loitering munitions and simple ground systems.

Iran's role also highlights a broader pattern: Russia's partners do not need to be technologically advanced. They need to be politically willing and industrially adaptable. In that sense, Iran's value lies less in what it can supply directly and more in what it has taught Russia about operating under conditions of long-term isolation from advanced Western economies.

North Korea: ammunition and the logic of substitution

North Korea's reported role in supplying large quantities of artillery ammunition illustrates a different, but equally important, dimension of foreign support: substitution at scale.

For Russia, artillery shells are a classic "commodity of war". They are expensive to produce in peacetime quantities and cheap to consume in wartime volumes. If foreign partners can supply even a fraction of what Russia needs, they effectively free up domestic capacity for other priorities, such as missile or drone production.

The strategic effect is not that North Korean shells win the war. It is that they stretch Russia's industrial bandwidth, allowing Moscow to allocate scarce resources across a broader portfolio of capabilities.

The limits of partnership

Despite the crucial role played by Moscow's foreign partners, there are real constraints on what they can or are willing to do.

China, for all its centrality, has shown no appetite for overt military alignment. Its support operates in the realm of dual-use trade and diplomatic cover, not in the transfer of advanced weapons systems. That places a ceiling on how far China can directly transform the quality of Russia's military.

Iran and North Korea, meanwhile, are themselves limited economies. They can provide designs and munitions in several limited areas of defence-industrial production, but they cannot supply, for example, the kind of high-end aerospace or naval technology that would allow Russia to leapfrog its current industrial constraints.

The result is a pattern of augmentation without transformation. Foreign partners help Russia to endure. They do not, so far, enable it to break out of its technological envelope.

Implications for 2030

By 2030, Russia's ability to wage war and threaten NATO will therefore be shaped less by a formal "axis" and more by the resilience of its access networks.

If China continues to act as a permissive hub for trade in dual-use goods, Russia will likely retain the capacity to sustain missile and drone production, maintain aerospace output plans, and modernise selected ground systems. If those networks tighten—through more aggressive export controls, financial sanctions and enforcement—Russia's wartime economy will face rising costs and slower regeneration.

For NATO and Ukraine, this shifts the centre of gravity. The most consequential battles may be fought not only on the battlefield, but in customs offices, shipping

registries, export-control regimes and financial clearing systems. The contest becomes one of industrial statecraft as much as military power.

The uncomfortable conclusion is that Russia's foreign partners make its reconstitution effort collective. The Kremlin may direct the war, but the global economy—through its loopholes and incentives—helps sustain it.

2. Reconstitution without transformation: Russia's defence industry in 2030

By 2030, Russia's armed forces will be the product of an extraordinary experiment in modern industrial endurance: a state that has learned to fight on while modernising under fire. The question for the United States and its allies is not whether Russia can rebuild—almost certainly can—but whether it can rebuild in a way that meaningfully alters the strategic balance.

The preceding analysis of Russia's armour, aviation, artillery, naval forces and long-range strike systems points to a common pattern. Moscow has demonstrated an impressive capacity to reconstitute mass. It has shown a far weaker capacity to transform quality. That distinction will shape the military and political landscape of Europe and Eurasia by the end of this decade.

The political economy of reconstitution

Russia's wartime economy has solved one problem very effectively: replacement. Tanks, guns, missiles, drones and aircraft that are destroyed tend, after a delay, to be replaced. The mechanism is neither elegant nor particularly innovative. It relies on three pillars: deep Soviet-era stocks; a repair and refurbishment system that treats old equipment as circulating capital rather than as scrap; and a state willing to channel labour, finance and political attention into defence production.

What it has not solved, at least not yet, is leapfrogging. The war has forced Russia to prioritise “good enough, now” over “better, later”. The result is a force that is becoming increasingly bifurcated: a relatively small, modernised core surrounded by a much larger mass of older, simpler systems. That structure is sustainable in a war of endurance. It is less obviously suited to a war of manoeuvre against a technologically integrated opponent.

Implications for Ukraine

For Ukraine, the most immediate implication of Russia's 2030 posture is bleak but clear: attrition will remain Russia's preferred strategy. The artillery analysis suggests Moscow is likely to sustain a fielded force of several thousand barrel systems through

continued drawdown of storage, barrel replacement and steady ammunition production. Its long-range strike complex—mixing cruise and ballistic missiles with mass-produced one-way UAVs—will almost certainly remain capable of imposing persistent pressure on Ukrainian infrastructure and air defences.

This does not guarantee Russian victory. But it does shape the terms of the war.

First, Russia's ability to regenerate armoured and artillery mass means that Ukrainian battlefield success will continue to face a structural headwind. Any breakthroughs achieved by Ukrainian forces will not translate easily into collapse, because Russia can fill gaps, even if with older or less capable equipment.

Second, the economics of the air war will remain asymmetric. A Shahed-derived drone that costs a fraction of an interceptor missile changes the defender's cost curve. By 2030, unless Ukraine's partners have dramatically expanded low-cost air-defence options, Russia's ability to generate “cheap mass” in the air will continue to be strategically disruptive.

Third, Russia's aviation posture—cautious, stand-off-oriented, and heavily reliant on glide bombs and long-range munitions—suggests that Ukraine will continue to face pressure without Russia needing to achieve air superiority. This is a form of escalation management: enough air power to impose costs, not enough exposure to risk catastrophic losses.

The strategic result is a war that, absent a political settlement, remains grinding rather than decisive. Russia's 2030 force mix is not obviously one that enables a rapid, large-scale conquest of Ukraine. But it is well-suited to sustaining pressure, punishing reconstruction, and keeping Kyiv's strategic horizon short.

Implications for the United States and NATO

For the United States and NATO, the more troubling implication lies not in what Russia can do to Ukraine, but in what its reconstituted forces mean for the alliance's eastern flank. Since the end of the Cold War, NATO's military planning has rested on an implicit assumption: that quality would reliably overcome

quantity. Superior precision, integration, air dominance and logistics would compensate for smaller numbers of platforms and units.

Russia's 2030 force mix challenges that assumption in two ways.

First, by the end of the decade, Russia is likely still to possess large nominal inventories of tanks, armoured vehicles and artillery, even if the average quality of those systems has declined. For NATO, this creates a familiar but uncomfortable problem: deterrence is not only about defeating the best units an adversary has; it is about convincing them that their worst units cannot be used profitably either.

A force structure that can generate large numbers of second-line units, backed by artillery and long-range fires, complicates any planning based on short, sharp, high-technology engagements. It raises the risk that a confrontation on NATO's periphery becomes a contest of endurance rather than a demonstration of superiority.

Second, Russia's growing reliance on long-range strike systems—particularly the combination of missiles, drones and decoys—poses a different challenge. NATO's integrated air and missile defence remains formidable, but it is also expensive and finite. The economics favour the attacker when the attacker can field large numbers of relatively cheap systems.

By 2030, Russia's ability to sustain mixed salvos at scale could force NATO to think less about the classic problem of "deterring the first strike" and more about the more prosaic but no less serious problem of sustaining defence over time: interceptor stockpiles, radar coverage, and the resilience of civilian and military infrastructure under prolonged pressure.

The nuclear shadow

Russia's strategic nuclear forces are unlikely to look radically different in 2030 from how they look today. The ICBM force will probably be further shifted toward Yars; the Borei submarines will remain the most survivable leg of the triad; Avangard will still be more a political symbol than a numerical game-changer; and Sarmat will either be fielded in limited numbers or still struggling through development.

For the United States and NATO, this implies continued strategic stability at the highest level, but also continued ambiguity at the levels below. Russia's conventional forces will operate under a nuclear umbrella that Moscow is willing to reference explicitly in crisis rhetoric. That does not make nuclear use likely. But it does make escalation management more complex.

The paradox of 2030 is therefore this: Russia's nuclear forces will be stable enough to deter existential threats, while its conventional forces will be robust enough to generate persistent pressure. The space between those two realities is where most of Europe's security dilemmas will reside.

Reconstitution versus transformation

The central analytical distinction is between reconstitution and transformation.

Russia has shown it can reconstitute. It can pull tanks from storage, refurbish guns, repair aircraft, assemble drones, and keep shipyards turning out submarines and small surface combatants. This is a formidable achievement under sanctions and wartime conditions.

What it has not yet demonstrated is the capacity for transformation: the ability to field, at scale, a force that is more integrated, more networked, and more technologically coherent than the one it started the war with.

In 2030, Russia's armed forces are therefore likely to exhibit four defining characteristics:

1. A smaller, modernised core of, for example, T-90M and upgraded T-72/T-80 tanks, Su-34M, Su-35, and increasingly, Su-57 combat aircraft, Borei-class submarines, and newer missile systems.
2. A larger but older fleet comprising legacy armoured vehicles, towed artillery, and older aircraft kept in service through repair and cannibalisation.
3. A powerful conventional long-range strike arm combining high-end missiles with mass-produced drones and decoys.
4. A constrained industrial ceiling capable of sustaining this mix, but struggling to move

decisively beyond it while fighting and under sanctions.

This is a force that can endure in the war in Ukraine. But it is less evidently a force that can dominate against a technologically integrated coalition. Here, foreign support has so far proven insufficient to overcome the ceiling imposed by Russia's own industrial base and the limits of what partners are willing to supply.

How will the Kremlin manage weakness and exploit strength in its defence economy

Wars are not won by factories alone. They are won by the rules that govern them. By 2030, the Kremlin's most consequential defence policy choices will be less about announcing new weapons than about designing an ecosystem—of finance, labour, trade and procurement—that makes endurance cheaper and failure rarer.

The emerging pattern of Russian policy points to a pragmatic, even technocratic, approach: mitigate bottlenecks, socialise risk, and push the system toward what might be called industrial sufficiency rather than technological brilliance.

Eight policy responses to mitigate these weaknesses and exploit its strengths are likely.

First, deeper state–industry fusion.

The war has accelerated a trend that began long before 2022: the blurring of lines between private firms, state corporations and the security apparatus. By 2030, this is likely to harden into a more formalised system of directed production. The state will continue to use long-term contracts, advance payments and guaranteed margins to keep defence firms solvent and focused, even when unit economics make little commercial sense. This is not central planning in the old Soviet style; it is closer to a war insurance scheme, where the state absorbs volatility so that producers can deliver volume.

The policy logic is simple. Bottlenecks—optics, engines, microelectronics, explosives—are expensive to solve and risky for any single firm to tackle. The state can spread that risk across the budget, using targeted

subsidies and preferential credit to pull private capital into politically favoured sectors.

Second, a deliberate tilt toward “good enough” standards

Russia's experience with drones and refurbished armour suggests a shift in doctrine from perfection to throughput. Policy will likely codify this by relaxing peacetime certification and testing regimes for certain categories of equipment, especially those expected to have short battlefield lifespans. The objective is to reduce time-to-field, even if it means higher failure rates in use.

This is not a sign of desperation. It is an economic choice. In a war of attrition, the marginal value of the 1,001st drone that works 80 per cent of the time may exceed that of the 100th drone that works 99 per cent of the time.

Third, labour will be a strategic resource.

Defence production is not only a question of machines; it is a question of people who can run them. Russia faces a tightening labour market, aggravated by mobilisation, emigration and demographic decline. Policy responses are likely to include selective conscription exemptions for skilled industrial workers, targeted wage subsidies in defence clusters, and expanded vocational pipelines tied directly to defence firms.

A geographic dimension will also likely emerge. Regional authorities will be incentivised to compete for defence contracts, turning industrial policy into a form of domestic political economy: jobs and investment in exchange for loyalty and output.

Fourth, the institutionalisation of sanctions evasion.

What began as improvisation is becoming policy. By 2030, Russia is likely to formalise networks for dual-use procurement, using state-backed trading houses, friendly jurisdictions and alternative payment systems to route components and machine tools into the defence sector.

This will be accompanied by a legal and regulatory framework that shields intermediaries from domestic

liability while encouraging risk-taking abroad. The state's role here is less to micromanage and more to underwrite uncertainty, providing diplomatic cover, financial backstops and, where necessary, political pressure.

Fifth, stockpiling as strategy.

One of the war's lessons is that buffers matter. The Kremlin is likely to treat certain categories of inputs—propellants, explosives, microelectronics, bearings, optics—as strategic reserves. Policy tools will include mandated inventory levels for key firms, tax incentives for warehousing, and state-funded reserve facilities.

This is a form of temporal arbitrage: using today's resources to buy tomorrow's resilience.

Sixth, selective openness to foreign capital and know-how.

Even as Russia decouples from Western markets, it is unlikely to pursue full autarky. Instead, it will likely expand joint ventures and technology-sharing arrangements with a small circle of permissive partners. The aim is not to import entire weapons systems, but to absorb production techniques, tooling and process management that raise domestic efficiency.

The political challenge will be to do this without creating new dependencies that Moscow cannot control. Hence the emphasis on partnerships that are asymmetric in Russia's favour, or at least politically aligned.

Seventh, fiscal prioritisation by stealth.

Sustaining a war economy is expensive. Rather than relying solely on headline defence budget increases, the Kremlin is likely to continue using off-budget instruments: state bank lending directed to defence firms, sovereign wealth fund injections, and quasi-fiscal mandates on state-owned enterprises.

This spreads the burden across the economy and reduces the political visibility of the true cost of war. It also makes reversal of the militarisation of society that has taken place since 2022 harder, locking in a defence-industrial orientation that outlives any single phase of the conflict.

Eighth, procurement as doctrine.

Perhaps the most subtle policy shift will be the alignment of military doctrine with industrial reality. Systems that are hard to produce at scale or depend heavily on constrained imports will be used sparingly or in niche roles. Systems that can be built, repaired and replenished domestically will shape operational concepts.

In effect, Russia's future way of war will be designed around what its factories—or its allies—can reliably deliver, not around what its generals might ideally want.

What kind of strategic behaviour will this produce?

A Russia with this force mix in 2030 is likely to behave in ways that reflect both its strengths and its limits.

It will probably remain risk-tolerant at the periphery: probing NATO's eastern flank with exercises, deployments and coercive signalling, confident that its mass and its nuclear umbrella provide insulation against catastrophic retaliation.

At the same time, it is unlikely to seek a direct, large-scale conventional confrontation with the United States and NATO. The qualitative gap—particularly in air power, ISR, and joint integration—would still be significant. The more plausible model is one where Moscow seeks to apply pressure without risking escalation: cyber operations, long-range strike demonstrations, maritime and airspace harassment, and the use of proxy forces in more distant theatres.

For Ukraine, this means continued vulnerability to long-range coercion even if the frontlines stabilise. For the United States and NATO, it means a return to a familiar Cold War-style problem: how to deter a state that is not seeking immediate war, but is willing to live permanently in the grey zone.

An uncomfortable arithmetic

The deeper lesson of Russia's reconstitution effort is not about Russian strength alone. It is about Western assumptions.

NATO's defence model is built around efficiency: fewer platforms, more capability per platform, and highly trained, highly paid personnel. Russia's wartime model, by contrast, has become one of sufficiency: enough tanks, enough guns, enough drones, enough missiles— all backed by a political system willing to absorb high costs and defer civilian consumption.

Neither model is inherently superior in all circumstances. But in a prolonged, high-intensity conflict near Russia's borders, the balance of advantage shifts toward the system that can tolerate loss and regenerate at scale.

By 2030, Russia is likely to have proven that it belongs firmly in that second category.

Conclusion: a durable challenger, not a transformed one

Russia's ability to reconstitute its armed forces by 2030 will not be in doubt. It will still field large armoured formations, a powerful artillery arm, a persistent long-range strike complex, a credible air force, a formidable submarine fleet, and a survivable nuclear deterrent.

What will remain in doubt is its ability to translate that mass into decisive advantage against a coalition that retains technological and economic superiority.

For Ukraine, this means that victory will not come from waiting for Russia's forces to wither away. They are unlikely to. It will come, if it comes, from altering the political and economic incentives that sustain Russia's war effort.

For the United States and NATO, it means that deterrence in the 2030s will look less like a contest of cutting-edge systems and more like a test of industrial depth, stockpiles and political will.

In that sense, Russia's greatest strategic achievement of the 2020s may not be any single weapon or platform. It may be something more prosaic and more troubling: the demonstration that, even under pressure, a large, resource-rich state can learn to fight on, even without ever quite learning to fight better.

About the author



Dr. Richard Connolly is director of Eastern Advisory Group and Senior Associate fellow at the Royal United Services Institute (RUSI) in London and at the Centre for a New American Security (CNAS) in Washington, D.C.

He was previously director of the Centre for Russian, European and Eurasian Studies (CREES) at the University of Birmingham and an associate fellow on the Russia and Eurasia Program at Chatham House. He is a specialist on the Russian economy and its defense industry.

His most recent books are *Russia's Response to Sanctions*, published by Cambridge University Press in 2018, and the *Very Short Introduction to the Russian Economy*, published by Oxford University Press in 2020 (second edition due summer 2026).

Dr. Connolly has acted as a consultant to a wide range of organisations, including government ministries and militaries in the UK, U.S., and other European countries, NATO, the OSCE, as well as private sector companies from across the world.