

# **COUNTERING THE AUTHORITARIAN AXIS:**

LESSONS FROM UKRAINE AND CHALLENGES FOR  
EUROPEAN SECURITY



# Countering the Authoritarian Axis: Lessons from Ukraine and Challenges for European Security

## Executive Summary

The deepening alliance of Russia, North Korea, Iran, and China presents an escalating strategic challenge to the West. Dubbed the "axis of authoritarianism," this coalition has strengthened its ties following Russia's full-scale invasion of Ukraine. As Europe already grapples with its largest war since 1945, western democracies need to take serious steps to ensure security on the continent amid the specter of a Russia-NATO confrontation in the decade ahead.

The relationships within this bloc of authoritarian regimes are complex and wide-ranging, spanning trade, military cooperation—including arms sales, joint weapons production, and technological advancements—space programs, cybersecurity, and intelligence sharing. These efforts are complemented by initiatives to forge broader economic alliances and weaken the U.S. dominance through dedollarization.

Despite their breadth and intensity, U.S. and EU sanctions have failed to force Russia and its allies to reconsider their aggression. Instead, they have solidified Moscow's image as a defiant anti-Western power, which some states admire.

This 'quartet of chaos'<sup>1</sup> exploits gaps in sanctions enforcement and export controls, enabling it to sustain and expand its destabilizing activities. A critical concern lies in the continued presence of Western components in weapons produced by Russia, Iran and North Korea, underscoring their ability to simultaneously bypass sanctions and adapt to restrictive measures.

The European Union plays an important part in countering the deepening cooperation between authoritarian regimes. Enhancing oversight mechanisms and closing existing loopholes are essential to limiting their expanding global influence.

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<sup>1</sup> The Economist, "A new "quartet of chaos" threatens America", 22 September 2024, <https://www.economist.com/international/2024/09/22/a-new-quartet-of-chaos-threatens-america>

## Abbreviations

**AK** - Avtomat Kalashnikova - Russian assault rifle models, such as AK-103, AK-133

**AML** - Anti-Money Laundering

**AMLA** - Anti-Money Laundering Authority

**CFSP** - Common Foreign and Security Policy

**CHPL** - Common High Priority Items List

**CNC** - Computer Numerical Control

**CRBM** - Close-Range Ballistic Missile

**CSPA** - Comprehensive Strategic Partnership Agreement

**CTF** - Counter-Terrorism Financing

**DIO** - Defense Industries Organization (Iran)

**DPRK** - Democratic People's Republic of Korea

**EAEU** - Eurasian Economic Union

**EEAS** - European External Action Service

**EU** - European Union

**FIU** - Financial Intelligence Unit

**GDP** - Gross Domestic Product

**HESA** - Iran Aircraft Manufacturing Industries Corporation

**HR** - High Representative of the Union for Foreign Affairs and Security Policy

**ICBM** - Intercontinental Ballistic Missile

**IRGC** - Islamic Revolutionary Guards Corps

**ISW** - the Institute for the Study of War

**KN** - North Korean missiles, e.g., KN-23/24

**KYC** - Know Your Customer policy

**LACM** - Land-Attack Cruise Missile

**Mi-28** - A Russian attack helicopter, also referred to as "Havoc"

**MiG-29** - Mikoyan-Gurevich MiG-29 - A Russian-made multirole fighter aircraft

**MODAFI** - Ministry of Defense and Armed Forces Logistics (Iran).

**NAKO** - Independent Anti-Corruption Commission

**NATO** - The North Atlantic Treaty Organization

**NIOC** - National Iranian Oil Company

**OFAC** - Office of Foreign Assets Control

**REPO** - Russian Elites, Proxies, and Oligarchs Task Force

**RF** - Russian Federation

**R&D** - Research and Development

**S-400 (Triumph)** - A Russian advanced surface-to-air missile defense system.

**Su-27/Su-35 (Sukhoi)** - fighter aircraft

**SPFS** - System for Personalized Financial Messages

**STR** - Suspicious Transaction Report

**UAC** - United Aircraft Corporation

**UNSCR** - United Nations Security Council resolution

**U.S.** - United States of America

**Yak-130 (Yakovlev)** - A Russian advanced jet trainer aircraft

## Introduction

The post-Cold War illusion of major conflict as a relic of the past on the European continent, along with the inevitability of democratic progression, has been irrevocably shattered. Russia's 2014 invasion of Ukraine marked the end of this era, though it took another decade for many to fully grasp the new geopolitical realities. As a multipolar world emerges, the resurgence of ideological bloc confrontation demands courage and bold leadership to counter an "axis of authoritarian powers" driven by imperialistic ambitions and military or hybrid aggression as their primary tools for achieving goals.

This shifting reality necessitates urgent, decisive investments in defense and security, particularly for Europe, whose military capabilities have steadily eroded after years of pursuing the utopian vision of a united continent "from Lisbon to Vladivostok." Beyond such wishful thinking, the Russian agenda, outlined by Vladimir Putin in his 2007 Munich speech, has steadily materialized, culminating in NATO's long-overdue recognition of Russia as a strategic threat in 2022.

The narrative of "globalization without limits" and "peace through trade" has proven woefully inadequate in the face of a new axis of authoritarianism. At its core are Russia and China, both having reaped the benefits of decades-long access to Western technologies and the outsourcing of production to the East. Along with long-sanctioned North Korea and Iran, these powers benefit from decades of Western policies that failed to prioritize security. This resurgent consolidation of authoritarian influence threatens to become a magnet for illiberal regimes in the Global South, further eroding Western leverage and diminishing its global influence.

Emboldened by the West's weak responses to its decades-long provocations—including the 2008 war against Georgia and hybrid warfare against Western states—Russia escalated to a full-scale invasion of Ukraine in 2022. China, while maintaining a public stance of neutrality, plays a crucial role in sustaining Russia's military-industrial complex. From March to July 2023 alone, Russia received over 10,000 monthly shipments of CNC tools from Chinese suppliers.<sup>2</sup> These shipments, along with semiconductors, navigation systems, and precision manufacturing equipment, have allowed Russia to modernize its aging Cold War-era arsenals and develop new weapon systems.

Despite ongoing sanctions, Beijing's actions demonstrate a tacit alignment with Moscow's objectives, further complicating efforts to isolate the Russian Federation. Meanwhile, RF partnership with North Korea has grown particularly troubling, marked by the ratification of a landmark mutual defence pact with Russia in late 2024.<sup>3</sup> This treaty obligates mutual defense and

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<sup>2</sup> Olena Yurchenko (ed.) et al, "Third-best option: China's rising role in Russian access to critical industrial equipment", August 2024, <https://reb.org.ua/storage/337/china-russia-cnc-august-2024.pdf>

<sup>3</sup> The Guardian, "Ukraine war briefing: North Korea ratifies landmark mutual defence pact with Russia", 12 November 2024, <https://www.theguardian.com/world/2024/nov/12/ukraine-war-briefing-north-korea-ratifies-landmark-mutual-defence-pact-with-russia>

immediate military assistance, transforming Pyongyang into a key enabler of Moscow's war machine.

In 2024, North Korea operated approximately 200 ammunition factories at full capacity, as noted by the South Korean Defense Minister Shin Won-sik.<sup>4</sup> DPRK exported over 20,000 containers of military cargo to Russia through the port of Rajin.<sup>5</sup> Allegedly, the shipments included 122 mm and 152 mm artillery shells, as well as Bulsae-4 anti-tank guided missile (ATGM) vehicle set(s)—all worth in a range from \$1.72 to \$5.52 billion. North Korea is also advancing its drone production, with leader Kim Jong Un emphasizing the country's aspiration to dominate this technology.<sup>6</sup> In return, Russia has supplied MiG-29 and Su-27 fighter jets, bolstering Pyongyang's air force, and deployed North Korean troops—estimated at 10,000 personnel—to aid Russian operations in Ukraine.<sup>7</sup>

The Iran-Russia partnership has evolved from tactical cooperation into a comprehensive defense and economic alliance. The comprehensive strategic partnership treaty between Tehran and Moscow, which includes defense and security cooperation, will soon be signed.<sup>8</sup> The document is based on the 2001 Treaty on the Foundation of Mutual Relations, which has been renewed and will remain valid until 2026. There are also ongoing discussions on Iran's collaboration with the Eurasian Economic Union under a full-fledged free trade zone agreement.<sup>9</sup> Currently, Iran supplies Russia with Shahed and other drones, munitions, and artillery for use in Ukraine and launched a drone production facility on Russian territory.

In return, Moscow is set to provide advanced military technology, including Su-35 fighter jets, Mi-28 attack helicopters and upgrades to Iran's air defense systems, with their cooperation extending to radars, electronics, and attack helicopters.<sup>10</sup> In 2023, Russia delivered two Yak-130

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<sup>4</sup> NV, "Seoul reports Pyongyang gunning its weapon factories to max output, supplementing Russian stockpiles", 27 February 2024, <https://english.nv.ua/nation/north-korean-factories-in-full-capacity-production-to-resupply-russian-ammo-for-ukraine-war-seoul-50396465.html>

<sup>5</sup> Kyiv Post, "Study Estimates North Korea's \$5.5 Billion Military Supply Deal with Russia in Ukraine War", 30 October 2024, <https://www.kyivpost.com/post/41325>

<sup>6</sup> The New York Times, "Kim Jong-un's Lesson From Ukraine War: Make More Drones", 15 November 2024, <https://www.nytimes.com/2024/11/15/world/asia/north-korea-drones.html>

<sup>7</sup> Euronews, "US commander: Russia to supply North Korea with fighter jets in exchange for troop deployment", 11 December 2024, <https://www.euronews.com/my-europe/2024/12/11/us-commander-russia-to-supply-north-korea-with-fighter-jets-in-exchange-for-troop-deployme>; ISW Press, "North Korea Joins Russia's War Against Ukraine: Operational and Strategic Implications in Ukraine and Northeast Asia", 01 November 2024, <https://www.understandingwar.org/backgrounder/north-korea-joins-russias-war-against-ukraine-operational-and-strategic-implications>

<sup>8</sup> Tehran Times, "Tehran, Moscow set to explore new avenues in upcoming strategic agreement: Lavrov", 29 December 2024, <https://www.tehrantimes.com/news/508076/Tehran-Moscow-set-to-explore-new-avenues-in-upcoming-strategic>

<sup>9</sup> Special Eurasia, "Iran's Expanding Trade with the Eurasian Economic Union", n/d, <https://www.specialeurasia.com/2024/10/10/iran-increase-trade-eurasia/>

<sup>10</sup> MEPEI, "Iran and Russia Agreements on Sukhoi Su-35 Fighter Jets, Mil Mi-28 Attack Helicopters, and Yak-130 Jet Trainers", n/d,

trainer aircraft to Iran, which also got access to western technologies through delivery of weapons obtained in the Russo-Ukraine war.<sup>11</sup>

Also, according to ISW, Russia launched several satellites for Iran in 2022 and 2024—the Khayyam (Canopus-V), Kousar high-resolution imaging satellite and the Hodhod—and undertook more obligations within space cooperation.<sup>12</sup> While technicians are aiding Iran’s missile and space programs, Russia has yet to deliver advanced systems like the Su-35 or S-400.<sup>13</sup> This delay may stem from Russia’s caution with Gulf Arab partners, given another aspect of such cooperation—empowerment of Iran-proxy terrorist organizations that destabilize the Middle East.

Moreover, mostly bilateral relations between Iran and China, China and North Korea, and the latter’s relations with Iran clearly demonstrate strategic strengthening of ties, despite some contradicting goals. While a wide range of trilateral or quadrilateral examples of in-depth cooperation are missing, the trend is clear.

The West’s own vulnerabilities have further exacerbated the challenge. According to the Independent Anti-Corruption Commission (NAKO) reports, in 2023, Russian weapons were found to contain over 4,000 restricted components produced by more than 200 companies from 22 countries, primarily Western ones. An estimated €4 billion worth of technological components reached Russia that year, with 64% originating from U.S.-based firms.<sup>14</sup> This loophole has enabled Russia to maintain and expand its military capabilities, undermining the effectiveness of 15 EU sanctions packages.

Meanwhile, Europe faces a critical dilemma. NATO’s 2% GDP defense spending benchmark remains unmet by eight alliance members, with Canada and seven European countries lagging.<sup>15</sup> In stark contrast, Poland has taken the lead, allocating 4.1% of GDP to defense in 2024, followed by Estonia, Latvia, Greece, and the United States, which spent \$755 billion on defense, including

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<https://mepei.com/iran-and-russia-agreements-on-sukhoi-su-35-fighter-jets-mil-mi-28-attack-helicopters-and-yak-130-jet-trainers/>

<sup>11</sup> The Eurasian Times, “Iran “Turns” Russian Trainer Aircraft Into A Combat Jet; Arms Yak-130 With R-73 Air-To-Air Missile: Reports”, 13 December 2024, <https://www.eurasiantimes.com/iran-turns-russian-trainer-aircraft-into-a-combat/>

<sup>12</sup> RBC Ukraine, “Russia launches two Iranian-made satellites - ISW”, 06 November 2024, <https://newsukraine.rbc.ua/news/russia-launches-two-iranian-made-satellites-1730854734.html>

<sup>13</sup> Atlantic Council, “What does Iran get for sending ballistic missiles to Russia?”, 10 September 2024, <https://www.atlanticcouncil.org/blogs/new-atlanticist/what-does-iran-get-for-sending-ballistic-missiles-to-russia/>

<sup>14</sup> NAKO, “Western components in the russian weapons: what is supplied and how sanctions are circumvented”, 14 June 2024, <https://nako.org.ua/en/media/zaxidni-komponenti-u-zbroji-rf-shho-postacayut-ta-yak-ominayut-sankcij>; NAKO, “Western Companies’ Recently Manufactured Components Found in a North Korean Missile Shot Down in Ukraine”, 17 October 2024, <https://nako.org.ua/en/research/u-pivnicnokoreiskii-raketi-yaku-zbili-v-ukrayini-je-neshhodavno-virobleni-komponent-i-zaxidnix-kompanij>

<sup>15</sup> NATO Public Diplomacy Division, “Defence Expenditure of NATO Countries (2014-2024)”, 12 June 2024, [https://www.nato.int/nato\\_static\\_f2014/assets/pdf/2024/6/pdf/240617-def-exp-2024-en.pdf](https://www.nato.int/nato_static_f2014/assets/pdf/2024/6/pdf/240617-def-exp-2024-en.pdf)

29.9% on R&D and major equipment. Calls for increased spending have intensified, with NATO Secretary General Mark Rutte urging members to aim for 4% of GDP.

To counter these growing threats, NATO endorsed a Defense-Critical Supply Chain Security Roadmap in June 2024, outlining measures to safeguard supply chains from disruptions that could weaken its deterrence and defense posture.<sup>16</sup> The axis of authoritarian powers—Russia, China, North Korea, and Iran—demands a coordinated and uncompromising response that prioritizes mid-term security over short-term economic interests. *In months war consumes decades of development and prosperity, making collective defense investments a necessity, not an option.*

This report examines strategic cooperation among Russia, China, North Korea and Iran as the axis of authoritarianism, which enhances their individual military capabilities and fuels global destabilization. Special attention is devoted to how they exploit Western, particularly European, technologies and circumvent sanctions to advance their strategic objectives.

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<sup>16</sup> NATO Factsheet, “Defence-Critical Supply Chain Security Roadmap”, July 2024, [https://www.nato.int/nato\\_static\\_files2014/assets/pdf/2024/7/pdf/240712-Factsheet-Defence-Supply-Chain-Ro.pdf](https://www.nato.int/nato_static_files2014/assets/pdf/2024/7/pdf/240712-Factsheet-Defence-Supply-Chain-Ro.pdf)

## **Methodology and Limitations**

This paper is based on publicly available sources highlighting interconnections between Russia, China, North Korea and Iran and recent developments in the EU sanctions policy. Every effort has been made to ensure the accuracy of the information as of 1 January 2025.

Examples on supply chains and flow of the Western-made components were collected from recently published studies, NAKO's own sources and available customs data. Please consider that the components described in this note may not necessarily come to the final beneficiary directly from the manufacturer. Such supplies, both before and after February 24, 2022, might also result from trade between intermediaries, certified resellers, and distributors. Given the complexity of the customs data, the somewhat opaque nature of this information, and potentially incorrect monetary indicators, the contracts' aggregated value may not necessarily reflect the actual sum of imports. Additionally, the lists of key importers and exporters do not automatically imply the company supplies directly for the needs of the Russian Federation Armed Forces or respective weaponry producers.

This paper names some companies that are believed to be involved in the manufacturing of components that have been acquired by the Russian, Iranian and North Korean military-industrial complexes and used in production.

To avoid doubt, we do not allege any legal wrongdoing on the part of the companies that manufacture the components and do not suggest that they have any involvement in any sanctions evasion-related activity.

Furthermore, we do not impute that the companies that make the components are involved indirectly or indirectly supplying the Russian military or Russian military customers in breach of any international (or their own domestic) laws or regulations restricting or prohibiting such action. This paper is released for the sole purpose of highlighting moral and ethical concerns, encouraging further discussion, and calling for more efficient measures to counter threats.

## The Authoritarian Nexus

Policymakers must recognize that the emerging partnership of the “quartet of chaos” is neither tactical, nor opportunistic—it represents a deliberate alignment of nations with similar ‘values’ and strategic interests, aimed at countering the Western-led global order.<sup>17</sup> In this geopolitical ensemble, every country performs its own part, with Russian aggression recurring as the “leitmotif”—the dominant theme that harmonizes and advances their shared objectives.

### *China’s Part*

**China-Russia.** China and Russia have steadily deepened their strategic partnership, anchored in the “no limits” declaration announced on February 4, 2022, during a meeting between Chinese President Xi Jinping and Russian President Vladimir Putin at the Beijing Winter Olympics.<sup>18</sup> In their joint statement, they proclaimed limitless friendship with no “forbidden” areas of cooperation.<sup>19</sup> The partnership underscores a shared commitment to expanding collaboration across trade, military, and energy sectors, while jointly opposing Western pressures. It reflects both nations’ ambition to challenge the U.S.-led global order and safeguard their regimes in the face of escalating geopolitical tensions.

That meeting resulted in a 2022 30-year agreement to supply up to 10 billion cubic meters of Russian gas annually via a new pipeline from Sakhalin to China.<sup>20</sup> Finalized in 2023, the deal reinforced energy as one of the pillars of their strategic partnership.

The “Power of Siberia” pipeline, operational since late 2019, connects Russian gas fields to Shanghai through a 5,111-kilometer route, making it the largest single-pipeline transport system of its kind.<sup>21</sup> Completed seven months ahead of schedule, the pipeline now delivers 110 million cubic meters of gas daily, a sharp rise from the initial 15 million cubic meters per day. The pipeline is expected to reach its full annual capacity of 38 billion cubic meters by 2025, accounting for approximately 9% of China’s annual gas consumption.

The proposed “Power of Siberia 2” pipeline aims to deliver up to 50 billion cubic meters of gas annually from Western Siberia to northern China. Originally planned to transit Mongolia, recent

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<sup>17</sup> The Economist, “A new “quartet of chaos” threatens America”, 22 September 2024, <https://www.economist.com/international/2024/09/22/a-new-quartet-of-chaos-threatens-america>

<sup>18</sup> Reuters, “Putin to visit China to deepen ‘no limits’ partnership with Xi”, 15 October 2023, <https://www.reuters.com/world/putin-visit-china-deepen-no-limits-partnership-with-xi-2023-10-15/>

<sup>19</sup> Kremlin, “Joint Statement of the Russian Federation and the People’s Republic of China on the International Relations Entering a New Era and the Global Sustainable Development”, 04 February 2022, <http://www.en.kremlin.ru/supplement/5770>

<sup>20</sup> Reuters, “Russia, China agree 30-year gas deal via new pipeline, to settle in euros”, 04 February 2022, <https://www.reuters.com/world/asia-pacific/exclusive-russia-china-agree-30-year-gas-deal-using-new-pipeline-source-2022-02-04/>

<sup>21</sup> Pipeline Technology Journal, “China Completes Massive Power-of-Siberia Pipeline”, 12 April 2024, <https://www.pipeline-journal.net/news/china-completes-massive-power-siberia-pipeline>

discussions suggest a potential rerouting through Kazakhstan. China has delayed the construction of a second gas pipeline, signaling its cautious approach to energy dependency. Moreover, China already accounts for nearly half of Russia's oil exports.<sup>22</sup>

The economic partnership is asymmetrical. In 2023, China-Russia trade hit a record \$240 billion, a significant increase from the \$147 billion in 2021 prior to the Russian invasion.<sup>23</sup> By October 2024, trade reached \$202 billion.

China accounts for 22% of Russia's trade, while Russia represents just 4% of China's. Russian officials have expressed optimism about future trade, setting a target of \$300 billion by 2030.<sup>24</sup> However, challenges remain, particularly in financial transactions. Chinese banks have adopted stricter compliance protocols to avoid U.S. sanctions, complicating cross-border payments and highlighting Beijing's careful navigation of Western economic pressure. By mid-2024, around 80% of Russian payments made in Chinese yuan were reportedly rejected or returned due to compliance issues from Chinese banks concerned about potential U.S. sanctions.<sup>25</sup>

In 2024, the Kremlin announced that its trade with China had nearly eliminated the use of the U.S. dollar, underscoring their joint effort to reduce reliance on the Western-led economic system and bypass sanctions restricting Moscow's access to international markets.<sup>26</sup>

Since 2022, Russia has increasingly relied on cryptocurrencies to circumvent Western sanctions, implementing legislative reforms to enable their use in international trade.<sup>27</sup> In 2023, Russia legalized cross-border transactions using digital currencies such as Bitcoin, with a regulatory framework allowing the use of domestically mined assets.<sup>28</sup> In 2024, Finance Minister Anton Siluanov confirmed that Russian companies had begun conducting foreign trade through cryptocurrencies, including stablecoins pegged to fiat currencies.<sup>29</sup>

China has become a key partner in this strategy. In search of an alternative to the SWIFT international payment system, both countries are advancing the integration of their Central Bank

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<sup>22</sup> CREA, "November 2024 – Monthly analysis of Russian fossil fuel exports and sanctions", 10 December 2024, <https://energyandcleanair.org/november-2024-monthly-analysis-of-russian-fossil-fuel-exports-and-sanctions/>

<sup>23</sup> Newsweek, "Russia Hits China With Trade Tariffs", 09 December 2024, <https://www.newsweek.com/russia-imposes-tariffs-china-allies-exports-1997721>

<sup>24</sup> Kremlin, "Russia Calling! Investment Forum", 04 December 2024, <http://en.kremlin.ru/events/president/news/75751>

<sup>25</sup> The Kyiv Independent, "Chinese banks reject about 80% of Russian yuan payments, media reports", 06 January 2025, <https://kyivindependent.com/chinese-banks-reject-about-80-of-russian-yuan-payments-media-reports/>

<sup>26</sup> Responsible Statecraft, "Russia, China dump the dollar as Moscow announces new trade corridors", 23 April 2024, <https://responsiblestatecraft.org/china-russia-trade/>

<sup>27</sup> Chain Analysis, "Russia's Cryptocurrency Pivot: Legislated Sanctions Evasion", 05 September 2024, <https://www.chainalysis.com/blog/russias-cryptocurrency-legislated-sanctions-evasion/>

<sup>28</sup> Reuters, "Russia is using bitcoin in foreign trade, finance minister says", 26 December 2024, <https://www.reuters.com/markets/currencies/russia-is-using-bitcoin-foreign-trade-finance-minister-says-2024-12-25/>

<sup>29</sup> Dev.ua, "Due to sanctions, Russia began using Bitcoin in international payments. Ukraine is already preparing a response", 26 December 2024, <https://dev.ua/en/news/rosiia-iuzaiie-bitok-cherez-sanktsii-1735226226>

Digital Currencies—the digital ruble and digital yuan—to streamline cross-border trade and reduce dependence on traditional financial systems.<sup>30</sup>

Over the past decades, China and Russia have significantly deepened their security cooperation through technology-sharing and joint military exercises.

The first joint drill was conducted in 2003, while since 2014 such drills have become systemic with up to 10 exercises of different types annually. Overall, China and Russia have conducted at least 102 joint military exercises as of July 2024, with over half occurring since 2017.<sup>31</sup>

These efforts range from large-scale operations, such as ‘Northern United-2024’ in the Sea of Japan and the Sea of Okhotsk, to smaller counterterrorism drills.<sup>32</sup> In May 2022, China and Russia conducted a joint aerial patrol over the Sea of Japan and East China Sea, coinciding with the Quad summit in Tokyo, seen as a provocative response.

In July 2024, the two nations conducted a joint air patrol over the northern Pacific, involving two Russian TU-95 and two Chinese H-6 strategic bombers. This eighth joint patrol entered the U.S. air defense identification zone near Alaska for the first time. Intercepted by NORAD, the patrol was officially described as “not seen as a threat.”<sup>33</sup> That same month, their joint naval patrol took place in the northern and western Pacific, aimed at strengthening strategic mutual trust and showcasing sustained maritime cooperation.<sup>34</sup>

In September 2024, the Ocean-2024 exercises brought together over 400 warships, submarines and auxiliary fleet support vessels; over 120 aircraft and helicopters; about 7,000 pieces of weapons, military and special equipment; as well as more than 90,000 personnel from both countries, emphasizing interoperability and demonstrating their combined military capabilities.<sup>35</sup> Later in the year, on November 29, 2024, China and Russia conducted their ninth joint aerial patrol over the Sea of Japan, involving multiple aircraft as part of their annual cooperation plan.<sup>36</sup>

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<sup>30</sup> Carnegie Russia, “Can the Digital Ruble Shield Russia From Western Sanctions?”, 17 October 2024, <https://carnegieendowment.org/research/2024/10/russia-digital-ruble-development?lang=en&center=europe>

<sup>31</sup> China Power, “China-Russia Military Cooperation: Arms Sales and Exercises,” accessed January 15, 2025, <https://chinapower.csis.org/china-russia-military-cooperation-arms-sales-exercises/>.

<sup>32</sup> ICCS, “Perspective on the ‘China-Russia Northern United-2024’ Military Exercise”, 19 September 2024, <https://iccs.org.tw/en/NewsContent/221>

<sup>33</sup> CNN Politics, “NORAD intercepts Russian and Chinese bombers operating together near Alaska in first such flight”, 25 July 2024, <https://edition.cnn.com/2024/07/24/politics/norad-russian-chinese-bombers-alaska/index.html>

<sup>34</sup> Xinhua, “Chinese, Russian navies conduct 4th joint maritime patrol”, 15 July 2024, <https://english.news.cn/20240715/46fc55a4f2cd4a6f811912ce5feef64f/c.html>

<sup>35</sup> The Moscow Times, “Russia, China Kick Off ‘Ocean 2024’ Joint Naval Exercises”, 10 September 2024, <https://www.themoscowtimes.com/2024/09/10/russia-china-kick-off-ocean-2024-joint-naval-exercises-a86318>;

Ukrainska Pravda, “Russia and China launch large-scale naval exercises in two oceans and three seas”, 10 September 2024, <https://www.pravda.com.ua/eng/news/2024/09/10/7474285/>

<sup>36</sup> Reuters, “China, Russia militaries conduct joint air patrol over Sea of Japan”, 29 November 2024, <https://www.reuters.com/world/china-russia-militaries-conduct-joint-air-patrol-over-sea-japan-2024-11-29/>

Yet, China has been careful to maintain plausible deniability in supporting Russia's military aggression in Ukraine. Still, according to Secretary of State Anthony Blinken, Beijing has become the biggest supplier of the dual-use goods such as machine tools (70% of Russia's import), microelectronics (90% of Russia's import), semiconductors and drone engines, while allegations of lethal aid supply remain unproven.<sup>37</sup> Two specific missile systems—the Kh-101 and Kalibr—have been identified to contain metal-oxide transistors produced by the Chinese company VBsemi.

Reports of the U.S. Office of the Director of National Intelligence also confirms that Chinese state-owned defense companies have been implicated in supplying dual-use components and equipment—such as semiconductors, drones, jet fighter parts, and jamming technology—to Russian state-owned defense enterprises.<sup>38</sup>

One of recent examples of China's dual use items in weapons used by Russia against Ukraine include antennas. Russia has started equipping Shahed-136 drones with Chinese antennas officially labeled for use in agricultural equipment. However, these antennas have significantly enhanced the drones' ability to overcome Ukrainian electronic warfare systems.<sup>39</sup>

In 2023, Russian Finance Minister Anton Siluanov stated that all drones used at the time by Russia against Ukraine were sourced from China.<sup>40</sup> Russia has reportedly established a weapons program in China to develop and produce long-range attack drones for use in the war against Ukraine.<sup>41</sup> Kupol, a subsidiary of Russia's state-owned arms company Almaz-Antey, has collaborated with Chinese specialists to develop and flight-test a new drone model, the Garpiya-3 (G3).

In 2024, for the first time, Chinese companies faced U.S. sanctions for “directly developing and producing complete weapons systems in partnership with Russian firms.”<sup>42</sup> The U.S. Department of the Treasury's OFAC imposed sanctions on Xiamen Limbach Aircraft Engine Co., Ltd. and Redlepus Vector Industry Shenzhen Co., Ltd. for collaborating with Russian defense firms to produce and supply components for the Garpiya UAVs used by Russia in its war against Ukraine.<sup>43</sup>

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<sup>37</sup> Censor.net, “90% of electronics imported by Russia comes from China. This gives it ability to produce tanks and ammunition at record pace – Blinken”, 22 May 2024, [https://censor.net/en/news/3490648/90\\_elektroniky\\_yaku\\_importuye\\_rf\\_nahodyt\\_iz\\_kytayu\\_blinken](https://censor.net/en/news/3490648/90_elektroniky_yaku_importuye_rf_nahodyt_iz_kytayu_blinken)

<sup>38</sup> U.S. Office of the Director of National Intelligence, “Report on Chinese Support to Russia,” accessed January 15, 2025, [https://democrats-intelligence.house.gov/uploadedfiles/odni\\_report\\_on\\_chinese\\_support\\_to\\_russia.pdf](https://democrats-intelligence.house.gov/uploadedfiles/odni_report_on_chinese_support_to_russia.pdf).

<sup>39</sup> Ukrinform, “Ukraine, partners to investigate use of Chinese antennas in Russian drones”, 03 January 2025, <https://www.ukrinform.net/rubric-ato/3944787-ukraine-partners-to-investigate-use-of-chinese-antennas-in-russian-drones.html>

<sup>40</sup> Ukrainska Pravda, ““Today, all drones come from China”: Russia's Finance Minister publicly acknowledges where they get UAVs from”, 16 October 2023, <https://www.pravda.com.ua/eng/news/2023/10/16/7424335/>

<sup>41</sup> Ukrainska Pravda, “Russia has secret project to develop military drones in China – Reuters”, 25 September 2024, <https://www.pravda.com.ua/eng/news/2024/09/25/7476740/>

<sup>42</sup> The Moscow Times, “U.S. Sanctions Chinese Firms Producing Drones for Russia”, 18 October 2024, <https://www.themoscowtimes.com/2024/10/18/us-sanctions-chinese-firms-producing-drones-for-russia-a86737>

<sup>43</sup> U.S. Department of Treasury, “Treasury Targets Actors Involved in Drone Production for Russia's War Against Ukraine”, 17 October 2024, <https://home.treasury.gov/news/press-releases/jy2651>

U.S. Deputy Secretary of State Kurt Campbell claimed that Russia, in turn, has begun providing advanced submarine, missile and other military technologies to China, reflecting a reciprocal dynamic.<sup>44</sup> Moreover, according to the Strategic Studies Institute, Russia is prepared to assist China in developing missile-warning and defense systems.<sup>45</sup>

This is confirmed by Admiral John Paparo, Commander of U.S. Naval Forces Central Command, who observed that China's assistance in rebuilding "Russia's war machine" could be complemented by Moscow sharing advanced military technologies with Beijing, like aeronautical design, including stealth, missile and submarine technologies, a move that has the potential to challenge American undersea dominance in the Pacific and threaten Japan, India, Australia, and South Korea.<sup>46</sup>

While investing into domestic production, China continues to rely on Russian-made engines for a significant portion of its PLA aircraft fleet. Between 2017 and 2023, aircraft engines constituted more than half of China's arms imports by value, with Russia being the primary supplier. Certain Chengdu J-20 stealth fighters are powered by Russian Saturn AL-31 engines, while variants of the developmental Shenyang J-35/FC-31 jet fighter have utilized Russian RD-93 engines.<sup>47</sup>

Space cooperation is another aspect of cooperation. In March 2024 Russia announced its plans to build together with China an automated nuclear power plant on the Moon between 2033 and 2035.<sup>48</sup> In 2021 the countries have already agreed to build the International Lunar Research Station together.<sup>49</sup>

Ukrainian officials confirmed cooperation between Moscow and Beijing in cyberspace and mentioned that Chinese spyware has been used for attacks against Ukraine, for example, in march 2022 Russia used malware developed by Scarab, a hacker group linked to the Chinese government.<sup>50</sup>

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<sup>44</sup> Politico, "US accuses China of giving 'very substantial' help to Russia's war machine", 10 September 2024, <https://www.politico.eu/article/united-states-accuse-china-help-russia-war-kurt-campbell/>

<sup>45</sup> Brian G. Carlson, "The Growing Significance of China-Russia Defense Cooperation", 18 September 2024, <https://ssi.armywarcollege.edu/SSI-Media/Recent-Publications/Display/Article/3908561/the-growing-significance-of-china-russia-defense-cooperation/>

<sup>46</sup> Politico, "US accuses China of giving 'very substantial' help to Russia's war machine", 10 September 2024, <https://www.politico.eu/article/united-states-accuse-china-help-russia-war-kurt-campbell/>

<sup>47</sup> China Power, "China-Russia Military Cooperation: Arms Sales and Exercises," accessed January 15, 2025, <https://chinapower.csis.org/china-russia-military-cooperation-arms-sales-exercises/>.

<sup>48</sup> RUSI, "Russia and China Reaffirm Their Space Partnership", 12 April 2024, <https://rusi.org/explore-our-research/publications/commentary/russia-and-china-reaffirm-their-space-partnership>

<sup>49</sup> Live Science, "China and Russia say they will join forces to build moon base", 10 March 2021, <https://www.livescience.com/china-russia-moon-mission.html>

<sup>50</sup> El Pais, "Ukraine claims Russia uses its cooperation with China to carry out cyberattacks", 12 February 2024, <https://english.elpais.com/international/2024-02-12/ukraine-claims-russia-uses-its-cooperation-with-china-to-carry-out-cyberattacks.html>

Intelligence-gathering coordination between Russia and China is growing. It builds on already existing industrial espionage, and on Russia's military intelligence gathering and political information influencing. Chinese spying activities intersect with Russian networks that have penetrated the EU's extreme political parties on the far right and far left.<sup>51</sup>

Despite their shared autocratic governance and opposition to Western dominance, China and Russia's partnership is not without tension. Beijing has long been wary of Moscow's erratic behavior, particularly its invasion of Ukraine and nuclear blackmail, which has strained China's relations with Europe and U.S..

The relationship also reflects different priorities regarding the global order. While both nations seek to undermine Western influence, China's reliance on global trade and financial systems incentivizes it to maintain the stability of key international institutions, for now. Russia, by contrast, is more willing to disrupt the status quo to achieve its geopolitical goals right away. At the same time, China's approach to Russia is rooted in pragmatism and aimed at preventing a Russian collapse that could destabilize China's northern border or shift Moscow into the orbit of a Western-aligned Europe.

**China-North Korea.** The China-North Korea relationship spans nearly 75 years, rooted in shared ideological orientation, yet shaped by the shifting demands of geopolitics. China's repatriation of North Korean defectors in 2024 has drawn criticism from human rights groups, reflecting ideological alignment.<sup>52</sup> Despite mutual distrust and the asymmetry of power, the bond remains critical for both nations, with North Korea's dependency on China defining much of their dynamic.

The Sino-North Korean Treaty of Friendship, Cooperation, and Mutual Assistance, signed in 1961 and lastly renewed in 2021, has been a cornerstone of the diplomatic and military relationship between China and North Korea.<sup>53</sup> Originally established as a mutual defense pact during a period of heightened tension on the Korean Peninsula, it obligates China to assist North Korea in the event of an attack, though only if North Korea is the victim of aggression. Despite its longevity and renewals every 20 years, its future implementation will depend on evolving strategic interests and external pressures from global powers.

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<sup>51</sup> China-Russia alignment: a threat to Europe's security. A report by MERICS, Chatham House and GMF, 26 June 2024 <https://merics.org/en/report/china-russia-alignment-threat-europes-security>

<sup>52</sup> HRW, "China Forcibly Returns 60 Refugees to North Korea", 08 May 2024, <https://www.hrw.org/news/2024/05/08/china-forcibly-returns-60-refugees-north-korea>

<sup>53</sup> Embassy of PRC in DPRK, Analytical Note, n/d, <http://kp.china-embassy.gov.cn/eng/zcgx/zcgxgk/>

China's political support for North Korea extends to international forums, where it has defended Pyongyang against tighter sanctions.<sup>54</sup> This strategic shielding underscores China's intent to sustain the Kim regime as a buffer against U.S. influence in the region.

Beijing's support for Pyongyang is driven by its desire to maintain stability on the Korean Peninsula. A collapse of the Kim's regime would pose a dual threat to China: the potential influx of hundreds of thousands of refugees and the geopolitical shift caused by the unification of Korea under a U.S.-aligned South Korea. Such a scenario would bring American military forces directly to China's border—a strategic nightmare for Beijing.

Even though the United Nations banned the deployment of North Korean forced laborers abroad, China continues to host tens of thousands of such workers, in complete violation of human rights, contributing an estimated \$200 million annually to Pyongyang's coffers.<sup>55,56</sup> These funds, received directly by the DPRK government, reportedly support North Korea's missile and nuclear programs.<sup>57</sup> In addition, Chinese companies aid North Koreans—from cheap laborers to well-paid IT specialists—to find workplaces abroad.<sup>58</sup>

Although China officially supports the denuclearization of the Korean Peninsula, its actions suggest a more ambivalent approach.<sup>59</sup> In 2022, Beijing, along with Moscow, vetoed U.N. sanctions in response to North Korea's missile tests.<sup>60</sup> Chinese analysts argue that Pyongyang's nuclear advancements are a reaction to U.S. hostility, and they urge Washington to ease its stance to facilitate denuclearization talks.<sup>61</sup>

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<sup>54</sup> Carnegie, "Cooperation Between China, Iran, North Korea, and Russia: Current and Potential Future Threats to America", 08 October 2024, <https://carnegieendowment.org/research/2024/10/cooperation-between-china-iran-north-korea-and-russia-current-and-potential-future-threats-to-america?lang=en>

<sup>55</sup> NK News, "What to make of reports that China plans to send back all North Korean workers", 11 July 2024, <https://www.nknews.org/2024/07/what-to-make-of-reports-that-china-plans-to-send-back-all-north-korean-workers/>

<sup>56</sup> myNEWS, "Gaps in records cloak China's North Korean 'slave labourers' in mystery", 10 August 2017, <https://www.scmp.com/news/china/policies-politics/article/2105851/gaps-records-cloak-chinas-north-korean-slave-labourers>

<sup>57</sup> The New Yorker, "Inside North Korea's Forced-Labor Program", 25 February 2024, <https://www.newyorker.com/magazine/2024/03/04/inside-north-koreas-forced-labor-program-in-china>

<sup>58</sup> The Associated Press, "Thousands of remote IT workers sent wages to North Korea to help fund weapons program, FBI says", 20 October 2023, <https://apnews.com/article/north-korea-weapons-program-it-workers-f3df7c120522b0581db5c0b9682ebc9b>

<sup>59</sup> The Associated Press, "China supported sanctions on North Korea's nuclear program. It's also behind their failure", 03 November 2023, <https://apnews.com/article/china-north-korea-sanctions-6e69cd6c0c17fba261f62ea8e5bc25c5>

<sup>60</sup> United Nations, "Security Council Fails to Adopt Resolution Tightening Sanctions Regime in Democratic People's Republic of Korea, as Two Members Wield Veto", 26 May 2022, <https://press.un.org/en/2022/sc14911.doc.htm>

<sup>61</sup> Council on Foreign Relations, "The China-North Korea Relationship", 21 November 2024, <https://www.cfr.org/backgrounder/china-north-korea-relationship>

China plays a prominent role in helping North Korea evade sanctions and embargoes, having been implicated in facilitating the illicit transfer of millions of barrels of oil through ship-to-ship exchanges, further undermining the international sanctions regime.<sup>62</sup>

North Korea's trade with China dominates its economy, accounting for approximately 98% of its total imports and exports in 2023, valued at \$2.3 billion.<sup>63</sup> China's provision of essential goods, including food and energy, serves as a lifeline for North Korea's heavily isolated regime. North Korea's chronic food insecurity—exacerbated by natural disasters and a fragile agricultural system—showcases China as a humanitarian aid provider.

China has invested in infrastructure to facilitate trade with North Korea, including high-speed rail connections and cargo shipping routes. A high-speed rail route connecting Dandong in China to Shenyang was opened in 2015, contributing to enhanced trade and transport between the two countries.

Despite the overt support, the China-North Korea relationship has its limits. Tensions occasionally surface, as seen in North Korea's ballistic missile tests near areas of strategic importance to China, with Pyongyang signaling its willingness to challenge Beijing's influence when it perceives a divergence in interests. Characterising these bilateral relationships, Dr. Feng Zhang went as far as claiming that Beijing increasingly views North Korea as an agent of chaos.<sup>64</sup>

Beijing has been wary of Pyongyang's closer alignment with Russia in recent years, particularly as North Korea has supplied arms and soldiers to Russia amid its war in Ukraine.

**China-Iran.** Iran and China's relationship is a historically rooted partnership that has evolved over centuries, transitioning from cultural and commercial exchanges along the ancient Silk Road to a modern alliance characterized by strategic and economic interdependence, where parties share commitment to countering Western influence in the region and globally. At the core of the modern relationship between Tehran and Beijing lies the 25-year Comprehensive Strategic Partnership Agreement (CSPA) signed in 2021, which formalized bilateral cooperation in various sectors, including energy, infrastructure, technology, and security.<sup>65</sup>

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<sup>62</sup> The Conversation, "Disguised ships and front companies: how North Korea has evaded sanctions to grow a global weapons industry", 05 August 2024, <https://theconversation.com/disguised-ships-and-front-companies-how-north-korea-has-evaded-sanctions-to-grow-a-global-weapons-industry-232716>

<sup>63</sup> Yonhap News Agency, "N. Korean economy grows 3.1 pct in 2023, snapping 3-yr contraction on trade with China", 20 December 2024, <https://en.yna.co.kr/view/AEN20241220005400320>

<sup>64</sup> ChinaPower, "China-North Korea Evolving Relations: A Conversation with Dr. Feng Zhang", 19 December 2024, <https://chinapower.csis.org/podcasts/china-north-korea-evolving-relations/>

<sup>65</sup> Rasanah, "The Iran-China 25- Year Comprehensive Strategic Partnership: Challenges and Prospects", April 2021, <https://rasanah-iis.org/english/wp-content/uploads/sites/2/2021/04/The-Iran-China-25-Year-Comprehensive-Strategic-Partnership-Challenges-and-Prospects.pdf>

While the CSPA implementation may face some hurdles over sanctions on Iran, the deal promises \$400 billion in Chinese investments within the next 25 years, including into two joint ports in Iran. It covers increased military cooperation between China and Iran, including joint drills and potential weapons development.

For decades China had been aiding Iran's ballistic missile program.<sup>66</sup> In 2023, the U.S. Treasury Department imposed sanctions on a network of 13 individuals and entities in China and Hong Kong for facilitating the procurement of sensitive technology crucial to Iran's ballistic missile development. This network supported key Iranian entities, including the Ministry of Defense and Armed Forces Logistics (MODAFL) and its affiliated organizations, such as Parchin Chemicals Industries (PCI), Aerospace Industries Organization (AIO), Iran Electronics Industries (IEI), and P.B. Sadr Company.

Despite discussions, Iran has not purchased major Chinese weapons since 2016.<sup>67</sup> However, Sajjad Ahadzadeh, Iran's technology counselor in China, reportedly led negotiations with Chinese and Russian government-controlled entities in 2023 to obtain large quantities of ammonium perchlorate, a sanctioned ingredient used in missile propellant.<sup>68</sup>

Still, Chinese-made drones have flooded the Middle East for some time already<sup>69</sup>, but this seems driven by business not strategic calculations. Some of them end up in the hands of Iran's proxies<sup>70</sup>. Beijing provides Iran with advanced satellite navigation and communication systems, including the military-grade BeiDou satellite navigation system—rivaling the U.S. GPS—which enhances drone performance and is available only to Iran and Pakistan, giving them access to superior guidance capabilities.

China-Iran-Pakistan trilateral consultation on counterterrorism and security was held in 2023 in Beijing, as an outcome of years of effort and strategic patience. The three sides have committed to cooperate actively in intelligence sharing, joint exercises, and collective efforts to counter terrorism and promote regional stability.<sup>71</sup>

In 2024, Iran was reportedly negotiating with China-based companies Chang Guang Satellite Technology Co. and MinoSpace Technology Co. to purchase low-cost, high-resolution spy

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<sup>66</sup> Iran Watch, "Iran's Missile Milestones", 23 february 2024, <https://www.iranwatch.org/our-publications/weapon-program-background-report/irans-missile-milestones>

<sup>67</sup> Observer Research Foundation, "China's Arms Transfer to Iran", 24 September 2024, <https://www.orfonline.org/research/china-s-arms-transfer-to-iran>

<sup>68</sup> Iran Watch, "Iran in Secret Talks with China, Russia to Acquire Sanctioned Missile Fuel", 12 April 2023, <https://www.iranwatch.org/news-brief/iran-secret-talks-china-russia-acquire-sanctioned-missile-fuel>

<sup>69</sup> The Diplomat, "Droning On: China Floods the Middle East With UAVs", 02 September 2022, <https://thediplomat.com/2022/09/droning-on-china-floods-the-middle-east-with-uavs/>

<sup>70</sup> Iran International, "Drones Used By Iran-Backed Militias Provided By China, US Reveals", 06 August 2022, <https://www.iranintl.com/en/202208062522>

<sup>71</sup> China-Pakistan-Iran Trilateral Security Consultation: Better Late Than Never. The Diplomat, 12 August 2023 <https://thediplomat.com/2023/08/china-pakistan-iran-trilateral-security-consultation-better-late-than-never/>

satellites, which could enhance Iran's targeting capabilities against U.S. and Israeli forces through its own operations and those of its proxies.<sup>72</sup> Multiple delegations from the Islamic Revolutionary Guard Corps (IRGC) have been involved in these talks.

Iran's vast energy resources and strategic geographic position make it an important partner for China. As the world's largest energy consumer, China has become a critical market for Iranian oil, especially as international sanctions have limited Tehran's trading abilities.<sup>73</sup> In 2023, China purchased 90 percent of Iran's oil exports with a tangible discount, still accounting for at least 5 percent of Iran's economic output. However, that covers only 10 percent of China's needs.<sup>74</sup>

Iran is also a partner for China's Belt and Road Initiative, which aims to connect Asia, the Middle East, and Europe through an expansive network of infrastructure projects<sup>75</sup>. However, Iran has lagged behind other nations, such as Saudi Arabia, which attracted \$52 billion of China's planned \$942 billion in overseas investments from 2013 to 2023, according to the American Enterprise Institute.<sup>76</sup> During this period, Iran secured just two investment agreements: a \$600 million commitment by China to Iran's South Pars gas field, which was canceled in 2018, and a \$350 million investment in the Gohardasht Steel project by China's MMC, which has yet to yield significant results.

For China, maintaining strong relations with Tehran bolsters its diplomatic standing and allows it to act as a mediator in regional disputes, as evidenced by its role in brokering the 2023 renormalization deal between Iran and Saudi Arabia. Such diplomatic engagements reflect China's ambitions to project itself as a stabilizing force in global affairs.

Beijing has supported the 2015 Iran nuclear deal and calls for its revival while backing Iran's demand to lift U.S. sanctions.<sup>77</sup> Despite China's tactics to not overheat international relations with other actors over Iran, the Sino-Iranian partnership holds strategic importance for both countries, not without limitations though.<sup>78</sup>

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<sup>72</sup> Foundation for Defense of Democracies, "Iran Seeks Purchase of Advanced Spy Satellites from China", 19 August 2024, <https://www.fdd.org/analysis/2024/08/19/iran-seeks-purchase-of-advanced-spy-satellites-from-china/>

<sup>73</sup> Statista, "Crude oil exports from Iran in 2012 and 2023, by destination region", <https://www.statista.com/statistics/264170/oil-exports-of-iran-by-region-2008/>

<sup>74</sup> CHOICE, "China and Iran: A Friendship of Choice or Necessity?", 05 November 2024, <https://chinaobservers.eu/china-and-iran-a-friendship-of-choice-or-necessity/>

<sup>75</sup> MFA The People's Republic of China, "Chinese Ambassador to Iran Cong Peiwu Pens an Article Titled 'Jointly Building the 'Belt and Road', China and Iran Stride Forward Hand in Hand'", 01 December 2024, [https://www.mfa.gov.cn/mfa\\_eng/xw/zwbd/202412/t20241218\\_11500590.html](https://www.mfa.gov.cn/mfa_eng/xw/zwbd/202412/t20241218_11500590.html)

<sup>76</sup> Iran International, "China Leaves Iran Out Of Major Investment Projects", 23 October 2023, <https://www.iranintl.com/en/202310220074>

<sup>77</sup> Anadolu Ajansi, "China says dialogue 'effective way' to unfreeze Iran nuclear deal", 26 June 2023, <https://www.aa.com.tr/en/asia-pacific/china-says-dialogue-effective-way-to-unfreeze-iran-nuclear-deal/2931404>

<sup>78</sup> U.S.-China Economic and Security Review Commission, "The China-North Korea Strategic Rift: Background and Implications for the United States", 24 January 2022, [https://www.uscc.gov/sites/default/files/2022-01/China-North Korea Strategic Rift.pdf](https://www.uscc.gov/sites/default/files/2022-01/China-North%20Korea%20Strategic%20Rift.pdf)

## North Korea's Part

**North Korea - Russia.** Russia and North Korea have a history of cooperation, beginning with the *Treaty of Friendship, Cooperation, and Mutual Assistance* (1961), which established Cold War-era military and economic ties. In 2000, the *Declaration on Strategic Partnership* renewed bilateral relations, focusing on political and economic collaboration.

The full-scale invasion of Ukraine by Russia in 2022 significantly deepened cooperation between Russia and North Korea, with Kim Jong-un expressing support for Russia's military actions in Ukraine.<sup>79</sup> Letters exchanged in August 2022 between Kim Jong Un and Vladimir Putin marked a shift from rhetorical alignment to tangible collaboration.<sup>80</sup>

North Korea joined Russia and Syria as the only nations to recognize the Donetsk and Luhansk People's Republics as sovereign entities in July 2022.<sup>81</sup> Following Russia's annexation of these territories, North Korea endorsed the results of sham referendums and declared them parts of the Russian Federation.<sup>82</sup>

In 2024, their ties deepened significantly with the *Mutual Defense Treaty*<sup>83</sup>, which includes mutual defense provision, and the *Defense Cooperation Pact*<sup>84</sup>, formalizing these commitments. Additionally, the *Comprehensive Strategic Partnership Treaty*<sup>85</sup> expanded cooperation. Its key points include the intent to develop exchanges and joint research in science and technology, including space, biology, peaceful use of nuclear energy, artificial intelligence and information technology.<sup>86</sup>

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<sup>79</sup> East Asia Forum, "The rebirth of the Russia-North Korea alliance", 27 October 2022, <https://eastasiaforum.org/2022/10/27/the-rebirth-of-the-russia-north-korea-alliance/>

<sup>80</sup> Al Jazeera, "Putin says Russia and N Korea will expand bilateral relations", 15 August 2022, <https://www.aljazeera.com/news/2022/8/15/putin-says-russia-and-n-korea-will-expand-bilateral-relations>

<sup>81</sup> Le Monde, "North Korea recognizes independence of pro-Russian territories in eastern Ukraine", 19 July 2022, [https://www.lemonde.fr/en/international/article/2022/07/19/north-korea-recognizes-independence-of-pro-russian-territories-in-eastern-ukraine\\_5990644\\_4.html](https://www.lemonde.fr/en/international/article/2022/07/19/north-korea-recognizes-independence-of-pro-russian-territories-in-eastern-ukraine_5990644_4.html)

<sup>82</sup> Chatham House, "North Korea and Russia's dangerous partnership", 04 December 2024, <https://www.chathamhouse.org/2024/12/north-korea-and-russias-dangerous-partnership/revival-north-korea-russia-relationship>

<sup>83</sup> Voice of America, "Putin signs into law mutual defense treaty with North Korea", 09 November 2024, <https://www.voanews.com/a/putin-signs-into-law-mutual-defense-treaty-with-north-korea-7858346.html>

<sup>84</sup> Reuters, "North Korea ratifies mutual defence treaty with Russia", 12 November 2024, <https://www.reuters.com/world/north-korea-ratifies-mutual-defence-treaty-with-russia-2024-11-11/>

<sup>85</sup> The Treaty Assembly Of The Russian Federation, "The State Duma ratified the Comprehensive Strategic Partnership Treaty between Russia and the DPRK", 24 October 2024, <http://duma.gov.ru/en/news/60239/>

<sup>86</sup> Key points of North Korea, Russia landmark strategic partnership treaty. Reuters, 20 June 2024. <https://www.reuters.com/world/asia-pacific/key-points-north-korea-russia-landmark-strategic-partnership-treaty-2024-06-20/>

In their correspondence, Kim and Putin pledged to strengthen "strategic and tactical cooperation" against perceived threats from the U.S. and its allies.<sup>87</sup> The mutual defense clause requires immediate military assistance in the event of an armed attack on either nation. Treaties also emphasized collaboration in defense capabilities, opposition to Western sanctions, and coordinated positions in international forums such as the United Nations.

This partnership initially centered on a cash-for-weapons exchange: North Korea supplied millions of rounds of 122-mm and 152-mm artillery to Russia for its war against Ukraine, receiving in return food, financial aid, and advanced Russian military technology.<sup>88</sup> However, in January, 2025, States Secretary Blinken warned that Russia may be ready to share advanced satellite technologies, emphasizing that the DPRK is already receiving Russian military equipment and training.<sup>89</sup>

Despite the UN embargo,<sup>90</sup> missiles from North Korea have already caused civilian casualties and destruction of critical infrastructure in Ukraine. The UN sanctions monitor confirmed the usage of North Korea's Hwasong-11 ballistic missiles against Ukraine.<sup>91</sup>

According to the 2024 Military Balance report, the regime tested a road-mobile, solid-fuel intercontinental ballistic missile, the Hwasong-18, in 2023. Later that year, Pyongyang also revealed a submarine that may have the capacity to launch nuclear-armed missiles.

North Korea has transferred over 100 artillery systems and 100 short-range ballistic missiles of the KN-23/24 type to Russia, according to Ukraine's Defence Intelligence.<sup>92</sup> The transfer began in October 2024 and includes more than 60 units of 170-mm M-1989 Koksan self-propelled artillery systems and 240-mm M-1991 multiple launch rocket systems. Some of these systems are reportedly intended for training purposes at the Saratov Higher Artillery Command School in Russia. Additionally, North Korea has supplied over 5 million units of large-caliber artillery ammunition and continues to deliver short-range ballistic missiles to Russia.

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<sup>87</sup> Arms Control Association, "Has Conflict on the Korean Peninsula Become Inevitable?", March 2024, <https://www.armscontrol.org/act/2024-03/features/has-conflict-korean-peninsula-become-inevitable>

<sup>88</sup> German Council on Foreign Relations, "North Korean Ammunition for Russia", 08 September 2022, <https://dgap.org/en/research/publications/north-korean-ammunition-russia>

<sup>89</sup> CNN World, "Blinken warns Russia is close to sharing advanced satellite technology with North Korea". 06 January 2025, <https://edition.cnn.com/2025/01/06/asia/blinken-russia-satellite-technology-north-korea-int-hnk/index.html>

<sup>90</sup> Parliamentary Assembly of the Mediterranean, "The trilateral cooperation: How the Russian Federation, Iran and North Korea are evading international sanctions", 08 November 2024, <https://pam.int/wp-content/uploads/2024/03/PAM-Background-Note-How-the-Russian-Federation-Iran-and-North-Korea-are-evading-international-sanctions-as-of-081124-copy.pdf>

<sup>91</sup> The New York Times, "What Weapons Is North Korea Accused of Supplying to Russia?", 17 June 2024, <https://www.nytimes.com/2024/06/17/world/europe/russia-north-korea-weapons-ukraine.html>

<sup>92</sup> TSN, "How many ballistic missiles and artillery systems North Korea has supplied to Russia: The Defence Intelligence reveals", 29 November 2024, <https://tsn.ua/en/ato/how-many-ballistic-missiles-and-artillery-systems-north-korea-has-supplied-to-russia-the-defence-intelligence-reveals-2712720.html>

North Korea's Central Military Commission issued Order No. 61351 on October 1, 2024, mandating an increase in arms production and exports to fulfill Russian military requests.<sup>93</sup> This order specifically targeted the Defense Ministry Department and major defense enterprises to enhance cooperation with Russia and secure ammunition supplies quickly. Overall, North Korea has about 200 munitions factories, currently operating in full capacity.<sup>94</sup>

As of now, North Korean stockpiles, estimated at millions or tens of millions of 122mm and 152mm calibers shells, are compatible with Russia's artillery systems used in Ukraine.<sup>95</sup> This vastly exceeds the EU's potential supply to Ukraine. In exchange for weapons supplies Russia sends DPRK raw materials for weapons production, in addition to food and other essential goods<sup>96</sup>.

Also, North Korea likely provided Russia with medium-range Pukguksong-2 (KN-15) missiles<sup>97</sup>, which has a range of up to 2,000 km. According to a top South Korean official, DPRK has reportedly received Russian anti-air missiles and air defence equipment in exchange for soldiers, which are currently carrying out an assault on Ukrainian positions in RF Kursk region.<sup>98</sup>

Ukrainian intelligence estimates the number of North Korean soldiers deployed at 11,000-12,000.<sup>99</sup> The regime had never previously deployed such a large force overseas. These troops, heavily indoctrinated by propaganda and isolated from modern media or the Internet<sup>100</sup>, are unlikely to respond to Ukrainian surrender campaigns.

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<sup>93</sup> Daily NK, "North Korea ramps up weapons production to meet Russia's demands", 11 October 2024, <https://www.dailynk.com/english/north-korea-ramps-up-weapons-production-russia-demands/>

<sup>94</sup> Institute for the Study of War, 23 December 2024, <https://x.com/TheStudyofWar/status/1871194885975580717?mx=2>

<sup>95</sup> RBC-Ukraine, "Koreans make up just 2%. How North Korean troops strengthen Russia's advance in Kursk region", 27 December 2024, <https://newsukraine.rbc.ua/analytics/what-do-north-korean-troops-bring-to-russia-1735322996.html>

<sup>96</sup> NV, "Seoul reports Pyongyang gunning its weapon factories to max output, supplementing Russian stockpiles", 27 February 2024, <https://english.nv.ua/nation/north-korean-factories-in-full-capacity-production-to-resupply-russian-ammo-for-ukraine-war-seoul-50396465.html>

<sup>97</sup> Militaryni, "North Korea Likely Transferred KN-15 Missile Systems to Russia", 21 December 2024, <https://mil.in.ua/en/news/north-korea-likely-transferred-kn-15-missile-systems-to-russia/>

<sup>98</sup> Al Jazeera, "South Korea says Russia sent North Korea missiles in exchange for troops", 22 November 2024, <https://www.aljazeera.com/news/2024/11/22/south-korea-says-russia-sent-north-korea-missiles-in-exchange-for-troops>

<sup>99</sup> RBC-Ukraine, "North Korea deploys 12,000 soldiers to Russia, with some already in Kursk region - Ukraine's Intelligence", 24 October 2024, <https://newsukraine.rbc.ua/news/north-korea-deploys-12-000-soldiers-to-russia-1729788874.html>

<sup>100</sup> Center For Countering Disinformation, "What motivates North Korean soldiers to fight for russia", 12 November 2024, <https://cpd.gov.ua/en/international-threats-en/global-south/what-motivates-north-korean-soldiers-to-fight-for-russia/>

Latest reports suggest that DPRK will rotate its troops stationed in Russia.<sup>101</sup> It is estimated that North Korea has a potential of sending from 30,000 to 100,000 aiding Russian aggression against Ukraine.<sup>102-103</sup> The U.S. Deputy Permanent Representative to the UN, Dorothy Camille Shea, cautioned that North Korean troops' involvement in the war against Ukraine provides the DPRK with valuable combat experience, enhancing its readiness for military actions against neighboring countries.<sup>104</sup>

Earlier, in June 2024, North Korea announced plans to send troops for engineering work in occupied areas of Donetsk.<sup>105</sup> Later, North Korean pilots came to Russia for training.<sup>106</sup>

Russia has increasingly relied on foreign nationals to bolster its forces in Ukraine, recruiting from low-income and conflict-prone regions by offering up to \$2000 monthly salary and prospects of Russian citizenship.

Latin America is another focus, with recruits from Cuba, Colombia, and Venezuela. In late 2023, over 200 Cubans reportedly joined the Russian army.<sup>107</sup> Similarly, dozens of Indians were duped into enlisting.<sup>108</sup>

Hundreds of Yemeni mercenaries<sup>109</sup>, recruited through a Houthi-linked company, and about 15,000 Nepalese men<sup>110</sup> have joined under similar incentives.

Russia's recruitment in Africa<sup>111</sup> has targeted nations like Rwanda, Burundi, Congo, and Uganda. The "Russian Africa Corps," comprising over 2,000 troops, has been deployed to

<sup>101</sup> The Kyiv Independent, "North Korea preparing to ship more troops, drones to Russia, Seoul says", 23 December 2024, <https://kyivindependent.com/north-korea-preparing-to-ship-more-troops-drones-to-russia-seoul-says/>

<sup>102</sup> The Kyiv Independent, "North Korea's troops learn the lessons of Russia's war, albeit at heavy cost," <https://kyivindependent.com/north-koreas-troops-learn-the-lessons-of-russias-war-albeit-at-heavy-cost/>.

<sup>103</sup> BBC News, "What to expect from North Korea's ties with Russia in 2025," <https://www.bbc.com/news/articles/cm2796pdm1lo>.

<sup>104</sup> Ukrainska Pravda, "U.S. Deputy Permanent Representative to the UN warned about the consequences of North Korean troops' involvement in the war against Ukraine," 9 January 2025, <https://www.pravda.com.ua/news/2025/01/9/7492659/>.

<sup>105</sup> Ukrainska Pravda, "North Korea to send engineering troops to occupied territories of Ukraine – TV Chosun", 27 June 2024, <https://www.pravda.com.ua/eng/news/2024/06/27/7462810/>.

<sup>106</sup> The Kyiv Independent, "North Korea has sent pilots to Russia to join its war in Ukraine, Newsweek reports", 22 October 2024, <https://kyivindependent.com/north-korea-has-sent-pilots-to-russia-to-join-its-war-in-ukraine-media-reports/>

<sup>107</sup> Politico, "Putin's passport trap: The Cubans caught in Moscow's endless war", 13 January 2025, <https://www.politico.eu/article/putins-passport-trap-the-cubans-caught-in-moscows-endless-war/>.

<sup>108</sup> BBC, "Please save me: The Indians duped into fighting for Russia", 18 September 2024, <https://www.bbc.com/news/articles/cly6ve2x72xo>

<sup>109</sup> RBC-Ukraine, "Russia recruits hundreds of Yemeni Houthis for war against Ukraine – FT", 24 November 2024, <https://newsukraine.rbc.ua/news/russia-recruits-hundreds-of-yemeni-houthis-1732440295.html>

<sup>110</sup> CNN, "Russia has recruited as many as 15,000 Nepalis to fight its war. Many returned traumatized. Some never came back", 11 February 2024, <https://edition.cnn.com/2024/02/10/asia/nepal-fighters-russia-ukraine-families-intl-cmd/index.html>

<sup>111</sup> Military, "Russia Actively Recruits Mercenaries in 4 African Countries", 28 May 2024, <https://mil.in.ua/en/news/russia-actively-recruits-mercenaries-in-4-african-countries/>

combat zones like Kharkiv, with recruits trained in Crimea. Many bring prior combat experience from conflicts in Syria, Libya, and other regions.

Recognizing the importance of cost-effective weapons in modern warfare, North Korea conducted tests of various kamikaze drones, with plans for their large-scale production.<sup>112</sup> South Korean intelligence has warned of the possibility that North Korea could supply strike drones to Russia.<sup>113</sup>

North Korea's assistance extended beyond weapons. In November 2023, it successfully launched its first reconnaissance satellite into orbit, with credible Russian support, in direct violation of UN Security Council resolutions.<sup>114</sup>

The collaboration also includes cybertheft operations. In 2022, North Korea amassed \$1.7 billion through cyberattacks targeting cryptocurrencies and global financial institutions, funneling these funds into its nuclear and missile programs.<sup>115</sup>

**North Korea - Iran.** Since establishing diplomatic ties in 1973, North Korea and Iran have built a relationship centered on military and strategic collaboration. During the 1980–88 Iran-Iraq War, North Korea supplied Iran with conventional weapons, laying the foundation for a military partnership that later expanded to include ballistic missile development.<sup>116</sup> By the early 1990s, Iran's Shahab-3 ballistic missile was developed based on North Korea's Rodong missile designs, as assessed by the U.S. Defense Intelligence Agency.<sup>117</sup> The Rodong 1 was North Korea's first fully domestically developed ballistic missile. The design has been continuously modernized, with Iran introducing advanced variants like the Emad, which are heavily based on the original Rodong design.

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<sup>112</sup> Babel, "Kamikaze drones were tested in North Korea. Kim Jong Un ordered their mass production", 15 November 2024,

<https://babel.ua/en/news/112677-kamikaze-drones-were-tested-in-north-korea-kim-jong-un-ordered-their-mass-production>

<sup>113</sup> NV, "Kim ramps up war support for Putin with more troops, new tech", 23 December 2024, <https://english.nv.ua/russian-war/pyongyang-escalates-military-aid-to-russia-with-troops-suicide-drones-50476265.html>

<sup>114</sup> The Washington Post, "North Korea says it launched a spy satellite: 5 things to know", 22 November 2023, <https://www.washingtonpost.com/world/2023/11/21/north-korea-spy-satellite/>

<sup>115</sup> BBC, "Crypto theft: North Korea-linked hackers stole \$1.7b in 2022", 02 February 2023, <https://www.bbc.com/news/world-asia-64494094>

<sup>116</sup> Wilson center, "Iran and North Korea: Marriage of Convenience", 02 November 2017, <https://www.wilsoncenter.org/article/iran-and-north-korea-marriage-convenience>

<sup>117</sup> Military Watch Magazine, "Rodong-1: How North Korea's First Strategic Missile Program Came to Involve Pakistan, Iran and Egypt", 06 July 2020, <https://militarywatchmagazine.com/article/rodong-1-the-evolution-of-north-korea-s-first-indigenous-missile-design-and-how-it-came-to-involve-pakistan-iran-and-egypt>

Tehran is reportedly interested in acquiring North Korea's Hwasong-15 intercontinental ballistic missile (ICBM)<sup>118</sup>, although Iran's missile program has so far been confined to ranges of up to 2,000 kilometers.

"Axis of Resistance"–Iran-backed militant groups, including Hezbollah, Hamas and the Houthis,–also benefits from cooperation. Iran's Emad medium-range ballistic missile was used in a 2023 attack against Israel<sup>119</sup>, as well as North Korean F-7 rocket-propelled grenade<sup>120</sup>, which could have been smuggled through Iran years ago. North Korea has reportedly sought to supply the Houthis, a Yemeni rebel group, with Scud C and Burkan-1 missiles.<sup>121</sup>

Both Iran and North Korea share common ground as long-standing strategic partners united by their opposition to U.S. policies and extensive economic sanctions. Both countries are adversaries of key U.S. allies: Iran challenges Israel and the Gulf Arab states, while North Korea poses a significant threat to South Korea, Japan, and regional stability in Asia. North Korea has consistently supported Iran's position in Middle Eastern conflicts, condemning Israeli actions and accusing the United States of perpetuating regional instability.

This alignment is reinforced by their shared designation by the United States as state sponsors of terrorism, with Iran holding this status since 1984 and North Korea from 1988 to 2008 and since 2017 for now on, with a break during efforts to negotiate limitations on its nuclear program.

## *Iran's Part*

**Iran - Russia.** The alarm should have sounded earlier: attempts to foster cooperation between Russia and Iran against the West began in 2001, when the two signed their first cooperation agreement since Iran's 1979 revolution--"The Treaty on the Basis of Mutual Relations and Principles of Cooperation between Iran and Russia".<sup>122</sup> In 2021, this 20-year strategic agreement was renewed for another decade, reinforcing bilateral partnership in economy, energy transportation, politics

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<sup>118</sup> Voice of America, "US and EU eye North Korea-Iran military cooperation", 01 May 2024, <https://www.voanews.com/a/us-and-eu-eye-north-korea-iran-military-cooperation/7593077.html>

<sup>119</sup> The New Arab, "What missiles did Iran use in its attack on Israel?", 02 October 2024, <https://www.newarab.com/news/what-missiles-did-iran-use-its-attack-israel>

<sup>120</sup> Voice of America, "SKorea's Spy Agency: Hamas Used North Korean Weapons Against Israel", 08 January 2024, <https://www.voanews.com/a/skorea-s-spy-agency-hamas-used-north-korean-weapons-against-israel-/7432029.html>

<sup>121</sup> Al Arabiya News, "Houthis using missiles 'supplied by N Korea': Report claims", 04 August 2015, <https://english.alarabiya.net/News/middle-east/2015/08/05/Yemen-rebels-using-missiles-supplied-by-North-Korea>

<sup>122</sup> The Washington Post, "Russia, Iran Renew Alliance Meant to Boost Arms Trade", 13 March 2001, <https://www.washingtonpost.com/archive/politics/2001/03/13/russia-iran-renew-alliance-meant-to-boost-arms-trade/3f27a335-537e-4325-a0c1-cde2c07b2e49/>

and security.<sup>123</sup> However, this cooperation reached unprecedented levels after Russia's 2022 invasion of Ukraine, reshaping the security landscape in the Middle East and Europe.

A 'comprehensive strategic partnership treaty' between Iran and Russia was signed on January 17, 2025, during a visit to Moscow by Iranian President Masoud Pezeshkian.<sup>124</sup> This might be a message to the new White House Administration, as the event takes place on the eve of the U.S. Presidential inauguration. The treaty expects to cover areas from trade and military cooperation to science, culture and education.<sup>125</sup> But most importantly it provides new levers against Western influence, including the creation of a new payment system to facilitate trade in national currencies.<sup>126</sup>

Key cooperation aspects of the countries include the construction of gas pipelines, LNG projects, natural gas and oil swaps, and advancing scientific and technological ties. Russia is likely to secure priority rights for oil and gas production in Iran's Caspian Sea sector.

Another focus is expanding the International North-South Transport Corridor (INSTC), connecting Russia, Iran's southern ports, and India. This corridor, vital for Russia's economy and military supply chains, has historic significance, facilitating trade between Russia, Iran, and India since the 16th century.

Additionally, discussions on Iran's participation in the Eurasian Economic Union (EAEU) and a potential free trade zone are ongoing.

One example of Russia-Iran collaboration is the Russia-Syria-Iran-Iraq coalition supporting Bashar al-Assad's regime formed back in 2015. Assad's regime's rapid collapse in 2024 and the loss of Syria, which was interpreted as Russia's weakness<sup>127</sup>, did not affect Russia-Iran cooperation. This signals the strategic nature of their partnership, which transcends specific conflicts or territories of interest, including the outcome of the war in Ukraine.

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<sup>123</sup> Russian International Affairs Council, "20-year Cooperation Treaty between Iran and Russia: Bilateral Strategic Partnership or Disappointing Agreement", 22 July 2021, [https://russiancouncil.ru/en/blogs/abijan/20year-cooperation-treaty-between-iran-and-russia-bilateral-strategic-/?sp\\_hrase\\_id=83762050](https://russiancouncil.ru/en/blogs/abijan/20year-cooperation-treaty-between-iran-and-russia-bilateral-strategic-/?sp_hrase_id=83762050)

<sup>124</sup> Al Jazeera, "Russia and Iran presidents sign partnership treaty in Moscow", 17 January 2025, <https://www.aljazeera.com/news/2025/1/17/russia-and-iran-presidents-sign-partnership-treaty-in-moscow>.

<sup>125</sup> Censor.net, "Russia and Iran to sign strategic pact on eve of Trump's inauguration - Newsweek", 25 December 2024, <https://censor.net/en/news/3527064/iran-and-russia-plan-to-sign-a-new-strategic-agreement>

<sup>126</sup> Gulf Research Center, "Partners in Defiance: Russia and Iran Move Closer to Alliance", 04 November 2024, <https://www.grc.net/single-commentary/200>

<sup>127</sup> Chatham House, "Russia has lost prestige after the fall of Assad. It has also been freed of a difficult partner", 13 December 2024, <https://www.chathamhouse.org/2024/12/russia-has-lost-prestige-after-fall-assad-it-has-also-been-freed-difficult-partner>

Russia has already strengthened its ties with Iran's "Axis of Resistance"<sup>128</sup>, a network of militias across the Middle East, including Hezbollah, Hamas, and the Houthis. This cooperation includes military support, such as transferring weapons originally supplied to Syria, which have ended up in Hezbollah's hands in southern Lebanon. Moscow uses these relationships to expand its geopolitical influence, leveraging its ties with militant groups to counter the United States and pressure regional actors like Saudi Arabia and Israel. Recognition of Russia as a state sponsor of terrorism by the U.S. is long overdue.<sup>129</sup>

It has been reported that Iranian businessman, the son of Iran's former defense minister and current adviser to Supreme Leader Ayatollah Ali Khamenei, Hossein Shamkhani is responsible for about a quarter of all weapon and strategic components shipments from Iran to Russia.<sup>130</sup> Shamkhani controls a network of companies that facilitate the export of oil and petroleum products from Iran and Russia through sanction-neutral countries. His fleet includes dozens of vessels, such as tankers and cargo ships.

In 2024, a group of hackers from the Prana Network leaked 10 gigabytes of data from an alleged Islamic Revolutionary Guards Corps (IRGC) front company called Sahara Thunder ("ST").<sup>131</sup> These documents comprise 10,685 emails and attachments, as well as a separate folder of 45 PDFs, which cover ST's oil shipping network and engagement at Russia's Alabuga drone facility, respectively. Key findings of interest include the following:

1. Sahara Thunder plays a central role in the Iranian effort to design, develop, manufacture, and sell unmanned aerial vehicles (UAVs) to the Russian government under a \$1.75 billion contract.
  - a. Russian officials allegedly visited Iran in November 2022 to negotiate a deal for ST to deliver 6,000 drones and assist in indigenizing production of 10,000 UAVs<sup>132</sup> per year at the Alabuga facility in Russia.
  - b. The contract stipulates a per-unit price of \$193,000 per Iranian UAV, although internal slide decks from Alabuga indicate the newer Shahed 237 series may be priced at \$1.4m each.

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<sup>128</sup> The Jamestown Foundation, "Russia Increases Ties with Iran's Axis of Resistance", 26 November 2024, <https://jamestown.org/program/russias-increases-ties-with-irans-axis-of-resistance/>

<sup>129</sup> O. Davlikanova, "Designation of the Russian Federation as a State Sponsor of Terrorism: Meeting the "Club of Villains" Criteria", 2022, Connections: The Quarterly Journal, <https://connections-qj.org/article/designation-russian-federation-state-sponsor-terrorism-meeting-club-villains-criteria>

<sup>130</sup> RBC-Ukraine, "Khamenei advisor's son supplying Iranian weapons to Russia, Bloomberg reports", 24 December 2024, <https://newsukraine.rbc.ua/news/khamenei-advisor-s-son-supplying-iranian-1735066667.html>

<sup>131</sup> Mind, "Hackers hacked into email services of Iranian company involved in the sale of Shaheds to Russia", 06 February 2024, <https://mind.ua/en/news/20269186-hackers-hacked-into-email-services-of-iranian-company-involved-in-the-sale-of-shaheds-to-russia>

<sup>132</sup> Military, "Russia is localizing Shahed-236 production", 06 February 2024, <https://mil.in.ua/en/news/russia-is-localizing-shahed-236-production/>

- c. Documents from the leaks show invoices for the transfer of at least \$128m in gold as part of this payment, as well as the use of a UAE intermediary called Generation Trading FZE, which appears to be making payments on behalf of the Russian government.
2. Sahara Thunder and its affiliates have sourced complex dual-use items such as avionics equipment, computer numerical control (CNC) machine tools, ball bearings, and carbon fiber from jurisdictions such as China, South Korea, Germany, France, and Taiwan.<sup>133</sup>
3. Sahara Thunder's corporate and commercial network ultimately include key actors in the Iranian oil industry (NIOC, NITC), drone industry (SAHA, HESA, Quds Aviation, DAMA), cargo and passenger airline industry (Mahan Air), the IRGC, the Ministry of Defense and Armed Forces Logistics (MODAFL), the Defense Industries Organization (DIO), quasi-state conglomerates (Bonyad Mostazafan, Bonyad Taavon Sepah), and other sanctioned entities.
4. Sahara Thunder operates a global shipping network which involves the loading, sale, or marketing of millions of barrels of crude oil in jurisdictions like China, Russia, Venezuela, Indonesia, Malaysia, and the UAE; analysts have identified at least 13 oil tankers affiliated with Sahara Thunder's ongoing illicit sales of Iranian oil.

Iran has supplied short-range ballistic missiles to Russia, with U.S. and European officials confirming the move.<sup>134</sup> In August 2024, it was revealed that Russia signed a contract in late 2023 to purchase hundreds of Iranian missiles, including Fath-360 and Ababil CRBMs, with training on the latter already underway.<sup>135</sup> Iran also transferred 400 Fateh-110 ballistic missiles to Russia through shipments via the Caspian Sea and aircraft.<sup>136</sup>

In return, Russia has announced deals for Su-35 fighter jets, Mi-28 attack helicopters, and Yak-130 training aircraft<sup>137</sup>, though only the latter has been delivered so far. The Yak-130 training jet has spotted carrying the Soviet-origin R-73 air-to-air missile, providing it with an attack capability, according to images shared by the 'Iran Military' account on X, which monitors updates on the Islamic Republic of Iran Armed Forces<sup>138</sup>.

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<sup>133</sup> Economic Security Council of Ukraine, "CNC Machinery 2.0. Updated research on the strategic role of CNC machines in curtailing Russia's military capacity", November 2023, <https://reb.org.ua/storage/220/cnc-machines-2-0-website.pdf>

<sup>134</sup> The Wall Street Journal, "U.S. Tells Allies Iran Has Sent Ballistic Missiles to Russia", 06 September 2024, <https://www.wsj.com/world/u-s-tells-allies-iran-has-sent-ballistic-missiles-to-russia-9558f4c4>

<sup>135</sup> International Institute for Strategic Studies, "Iranian missile deliveries to Russia: escalating military cooperation in Ukraine", 18 September 2024, <https://www.iiss.org/online-analysis/missile-dialogue-initiative/2024/09/iranian-missile-deliveries-to-russia-escalating-military-cooperation-in-ukraine/>

<sup>136</sup> Reuters, "Exclusive: Iran sends Russia hundreds of ballistic missiles", 21 February 2024, <https://www.reuters.com/world/iran-sends-russia-hundreds-ballistic-missiles-sources-say-2024-02-21/>

<sup>137</sup> Middle East Political and Economic Institute, "Iran and Russia Agreements on Sukhoi Su-35 Fighter Jets, Mil Mi-28 Attack Helicopters, and Yak-130 Jet Trainers", <https://mepei.com/iran-and-russia-agreements-on-sukhoi-su-35-fighter-jets-mil-mi-28-attack-helicopters-and-yak-130-jet-trainers/>

<sup>138</sup> Iran Military, 08 December 2024, [https://x.com/IRIran\\_Military/status/1865852996619563386?mx=2](https://x.com/IRIran_Military/status/1865852996619563386?mx=2)

In 2024, 40 Iranian MiG-29 pilots were selected to be trained on the Su-35, with plans for some to train in Russia and others in Iran using the Yak-130 platform.<sup>139</sup> Russian operators have received UAV training and operational assistance from Iranian instructors in Russia, Crimea, Belarus, Ukraine, and Syria.<sup>140</sup>

Moscow's involvement extends to Iran's air defense systems, as evidenced by a 2023 visit by Iranian officials to the NPP Start factory in Yekaterinburg<sup>141</sup>, which manufactures mobile launchers and components for advanced systems like the S-400.

Iran and Russia are allegedly pursuing joint research to enhance naval capabilities, while also announcing cooperation in the aviation domain to overhaul and manufacture airplanes and helicopters. Meanwhile, Iran has been producing the AK-133 assault rifle, a licensed copy of the Russian AK-103, since 2017.<sup>142</sup> However, Russia has so far refrained from delivering the S-400 or Su-35 to Iran, potentially due to concerns about Gulf Arab partners or sanctions-related production limitations.

Iran has conducted several joint naval drills with its allies, demonstrating their growing military cooperation. The *Security Bond 2023* drill and *2024 Marine Security Belt*<sup>143</sup> exercises in the Gulf of Oman. The latter brought together Iran, Russia, and China for the fourth time since 2019, focusing on maritime security, piracy, and terrorism with over 20 ships and naval helicopters. Same year, Iran held the *IMEX 2024* drills in the Indian Ocean with Russia and Oman and the *Caspian Sea Maritime Security Drills* in the strategically vital Caspian Sea.

In the aerospace domain, Russia launched Iran's Khayyam imaging satellite in 2022 and another satellite in 2024.<sup>144</sup> A joint agreement on space cooperation as of 2022 also covered collaboration on remote sensing, communications satellites, laboratory infrastructure, and even the training of an Iranian astronaut for missions aboard Russian space stations. Iran announced plans to manufacture advanced satellites, including the Khayyam-2, -3, and -4.

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<sup>139</sup> Defence Security Asia, "Iran Prepares Pilots for Su-35 Operations Ahead of Arrivals from Russia", 24 March 2024, <https://defencesecurityasia.com/en/iran-prepares-pilots-for-su-35-operations-ahead-of-arrivals-from-russia/>

<sup>140</sup> James Martin Center for Nonproliferation Studies, "Iran-Russia Defense Cooperation: Current Realities and Future Horizons", August 2024, [https://nonproliferation.org/wp-content/uploads/2024/08/op61-RSI\\_Russia-Iran\\_Notte-Lamson\\_CNS-Occasional-Paper.pdf](https://nonproliferation.org/wp-content/uploads/2024/08/op61-RSI_Russia-Iran_Notte-Lamson_CNS-Occasional-Paper.pdf)

<sup>141</sup> Institute for the Study of War, "Iran Update", 16 April 2024, <https://www.understandingwar.org/backgrounder/iran-update-april-16-2024>

<sup>142</sup> Iranwire, "Special Report: What Equipment Is Used To Suppress Iran Protests, Which companies Provides Them?", 07 November 2022, <https://iranwire.com/en/politics/109507-from-armored-vehicles-to-kalashnikovs-equipment-used-to-suppress-iran-protests/>

<sup>143</sup> Voice of America, "Iran hosts joint naval drills with Russia, Oman in Indian Ocean", 19 October 2024, <https://www.voanews.com/a/iran-hosts-joint-naval-drills-with-russia-oman-in-indian-ocean/7828715.html>

<sup>144</sup> Al Jazeera, "Iran launches 'domestically developed' imaging satellite from Russia", 29 February 2024, <https://www.aljazeera.com/news/2024/2/29/iran-launches-domestically-developed-imaging-satellite-from-russia>

Russia has also enabled Iran to advance its missile technology, with Russian technicians working on Iran's missile and SLV programs.<sup>145</sup> Moscow is reported to have exchanged Western-origin military technology captured in Ukraine, including U.S.-made Javelin and Stinger missiles and British NLAW anti-tank systems, to Iranian drones.<sup>146</sup> This technology provides Tehran with opportunities for reverse engineering and countermeasure development. Additionally, Russia has transferred insights from its use of Iranian drones, such as the Shahed series, and missiles in Ukraine, including strategies to evade Western air defenses.

Russia has shared GPS denial and jamming expertise with Iran<sup>147</sup>, which is now producing Cobra V8 jamming vehicles, believed to be its version of Russia's advanced Krasukha-4 system, capable of jamming airborne or satellite radars and GPS signals.

In terms of economic ties, Russia has become the largest foreign investor in Iran.<sup>148</sup> State-owned energy firms are securing agreements to develop Iran's oil and gas fields, while using Iranian territory for storing Russian oil.<sup>149</sup> Russian oil companies plan to invest heavily in developing Iran's vast oil and gas reserves, according to Petroleum Minister Javad Owji.<sup>150</sup> With Iran holding the world's third-largest oil reserves at 209 billion barrels, this deepening cooperation should alarm the U.S. and its allies.

In June 2024, Russia and Iran signed a memorandum for the daily export of 300 million cubic meters of Russian gas to Iran.<sup>151</sup> Under the 30-year agreement, Russia will construct the supply line, and Iran will resell any surplus gas to Iraq.

Additionally, the 'duet' has improved its ability to evade and adapt to international sanctions, as evidenced by a December 2023 joint declaration on "ways and means to counter, mitigate, and

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<sup>145</sup> War On The Rocks, "The Uncomfortable Reality Of Russia And Iran's New Defense Relationship", 24 July 2024, <https://warontherocks.com/2024/07/the-uncomfortable-reality-of-russia-and-irans-new-defense-relationship/>

<sup>146</sup> The Warzone, "Ukraine Situation Report: Russia Traded Captured Weapons To Iran For Drones New Report Claims", 09 November 2022, <https://www.twz.com/ukraine-situation-report-russia-traded-captured-weapons-to-iran-for-drones-new-report-claims>

<sup>147</sup> War On The Rocks, "The Uncomfortable Reality Of Russia And Iran's New Defense Relationship", 24 July 2024, <https://warontherocks.com/2024/07/the-uncomfortable-reality-of-russia-and-irans-new-defense-relationship/>

<sup>148</sup> Middle East Monitor, "Russia becomes Iran largest foreign investor: Iran Finance Minister", 24 March 2023, <https://www.middleeastmonitor.com/20230324-russia-becomes-iran-largest-foreign-investor-iran-finance-minister/>

<sup>149</sup> Enerdata, "Iran signs US\$13bn of contracts to develop 6 oil fields and boost production", 19 March 2024, <https://www.enerdata.net/publications/daily-energy-news/iran-signs-us13bn-contracts-develop-6-oil-fields-and-boost-production.html>

<sup>150</sup> OilPrice.com, "Russia Eyes Expansion of Investment in Iranian Oil and Gas Sector", 25 June 2024, <https://oilprice.com/Energy/Energy-General/Russia-Eyes-Expansion-of-Investment-in-Iranian-Oil-and-Gas-Sector.html>

<sup>151</sup> European Leadership Network, "Iran Set to Become More Dependent on Russia – Dr. Meir Javedanfar", 05 November 2024, <https://elnetwork.eu/policypaper/iran-set-to-become-more-dependent-on-russia-dr-meir-javedanfar/#>

redress the adverse impacts of unilateral coercive measures<sup>152</sup> to increase ‘coordination of efforts by members of world community to overcome illegal sanctions’<sup>153</sup>. Russia has been closely monitoring Iran's sanctions evasion techniques and has started to adopt them, including deceptive oil shipping practices like ship-to-ship transfers to conceal the oil's country of origin<sup>154</sup>.

One method of evading restrictions is through cryptocurrencies. Russia, following Iran's example of dedollarization<sup>155</sup>, has turned to ruble-denominated payments using its SPFS messaging system. "Tether" cryptocurrency has reportedly become crucial for supporting Russia's illegal war against Ukraine, primarily facilitated by the sanctioned Moscow-based exchange Garantex. To address economic challenges, trade with third countries has been organized through overseas networks, using front companies and fake documentation in jurisdictions with minimal oversight, such as Panama or Sierra Leone.

Over the past two years, Russia has positioned itself as a de facto protector of Iran's near-nuclear status. Backed by Moscow, Iran gained full membership in the Shanghai Cooperation Organization in July 2023 and joined the expanded BRICS in January 2024.<sup>156</sup>

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<sup>152</sup> MFA of the Russian Federation, "Declaration by the Russian Federation and the Islamic Republic of Iran on the Ways and Means to Counter, Mitigate and Redress the Adverse Impacts of Unilateral Coercive Measures", 05 December 2023,

[https://mid.ru/en/foreign\\_policy/news/1919257/?TSPD\\_101\\_R0=08765fb817ab20000150f3006d00e61f36b7062c4b8545c93abb0527a43ab301f997cc7f1d1569c608aec660ac143000559559fe9d219a933691dc63e64b9d3b643dc6cad610a9f5d1a2f89da768d56ff05a83b575cd5f7c8e1ac56073785554](https://mid.ru/en/foreign_policy/news/1919257/?TSPD_101_R0=08765fb817ab20000150f3006d00e61f36b7062c4b8545c93abb0527a43ab301f997cc7f1d1569c608aec660ac143000559559fe9d219a933691dc63e64b9d3b643dc6cad610a9f5d1a2f89da768d56ff05a83b575cd5f7c8e1ac56073785554)

<sup>153</sup> Anadolu Ajansı, "Russia, Iran sign agreement on countering unilateral sanctions", 05 December 2023, <https://www.aa.com.tr/en/politics/russia-iran-sign-agreement-on-countering-unilateral-sanctions/3073919>

<sup>154</sup> United Against Nuclear Iran, "Tehran's Ties With Beijing and Moscow", June 2023, <https://www.unitedagainstnucleariran.com/tehrans-ties-beijing-and-moscow>

<sup>155</sup> Parliamentary Assembly of the Mediterranean, "The trilateral cooperation: How the Russian Federation, Iran and North Korea are evading international sanctions", 08 November 2024, <https://pam.int/wp-content/uploads/2024/03/PAM-Background-Note-How-the-Russian-Federation-Iran-and-North-Korea-are-evading-international-sanctions-as-of-081124-copy.pdf>

<sup>156</sup> Anadolu Ajansı, "Iran becomes full member of Shanghai Cooperation Organization", 04 July 2023, <https://www.aa.com.tr/en/asia-pacific/iran-becomes-full-member-of-shanghai-cooperation-organization/2936909>

**Overview of the Quartet's Cooperation Areas** (based on proven cases of cooperation)

YEAR	CHINA-RUSSIA	CHINA-NORTH KOREA	CHINA-IRAN	NORTH KOREA-RUSSIA	NORTH KOREA-IRAN	IRAN-RUSSIA
GEOPOLITICAL ALIGNMENT AND RENEWED COOPERATION AGREEMENTS SINCE 2022	✓	✓	✓	✓	✓	✓
TRADE AND INFRASTRUCTURAL COOPERATION PROJECTS	✓	✓	✓	✓		✓
WEAPONS SALES				✓	✓	✓
JOINT WEAPONS PRODUCTION	✓		✓			✓
JOINT MILITARY DRILLS	✓		✓			✓
TECHNOLOGY SHARING	✓		✓	✓	✓	✓
INTELLIGENCE COOPERATION	✓		✓			✓
DUAL-USE GOODS PROVISION	✓		✓			✓
NUCLEAR COOPERATION	✓			✓		✓
SENDING TROOPS TO ANOTHER COUNTRY				✓		
CYBER COOPERATION	✓			✓		
SPACE COOPERATION	✓		✓	✓		✓

Legend:

- "✓" indicates documented cooperation in the specified area.
- A blank cell indicates a lack of documented cooperation in that area or no clear evidence.

Although there are currently limitations to building a comprehensive alliance due to certain contradicting interests, and no evidence of quadrilateral defense cooperation among China, Russia, North Korea, and Iran, this “quartet” is likely to strengthen and evolve into a full-fledged power counterbalancing the Collective West.

## EU Response

### EU Sanction Mechanism in Theory and Practice

The European Union (EU) adopts, amends, lifts, or renews sanctions through decisions made unanimously by the Council of the EU. These decisions are based on proposals developed by the High Representative of the Union for Foreign Affairs and Security Policy (HR) and undergo examination by relevant preparatory bodies to ensure coherence and effectiveness. Member States are responsible for implementing sanctions within their jurisdictions.

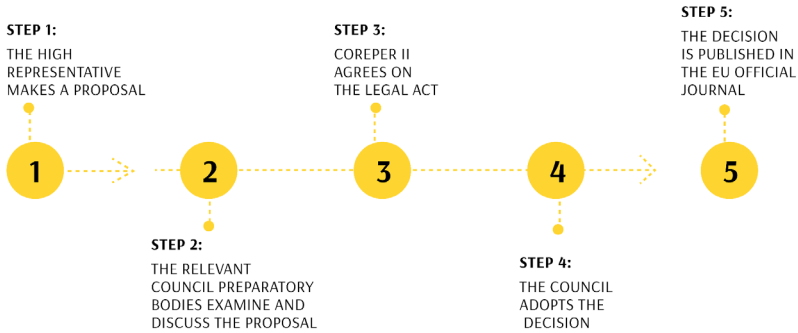
Restrictive measures are formalized in decisions under the Common Foreign and Security Policy (CFSP). The HR plays a dual role in this process: proposing measures and ensuring, in coordination with the Council, the unity and consistency of EU actions in the realm of foreign and security policy.

The examination of proposed measures follows a structured process:

- *Regional Working Parties*: The geographical working party responsible for the targeted region (e.g., Eastern Europe and Central Asia Working Party for Ukraine or Belarus, Mashreq/Maghreb Working Party for Syria) evaluates the proposal.
- *Foreign Relations Counsellors*: The Working Party of Foreign Relations Counsellors conducts further analysis and discussion.
- *Special Committees* (if necessary): The Political and Security Committee provides additional input on strategic and security aspects.
- *Permanent Representatives*: The Committee of Permanent Representatives (Coreper II) reviews the proposal to finalize it for the Council's consideration.

Once reviewed, the Council adopts the decision through unanimous agreement, ensuring that all Member States align their efforts within the framework of the EU's foreign policy objectives.

## Sanction Adoption Mechanism



The European External Action Service (EEAS) plays a critical role in the EU's sanctions process, supporting the formulation, implementation, and monitoring of restrictive measures under the Common Foreign and Security Policy (CFSP). It assists the High Representative by analyzing geopolitical situations, drafting proposals, and coordinating with Member States to build consensus. The EEAS provides technical expertise, ensures consistent implementation across Member States, monitors compliance, and engages with international partners to enhance enforcement. Additionally, it evaluates the effectiveness of sanctions and recommends adjustments to align with EU policy goals, ensuring a strategic and cohesive approach to sanctions management.

For its part the European Commission presents proposals, jointly with the High Representative for regulations. It ensures legal compliance by drafting necessary legislative acts and providing technical expertise to align sanctions with EU law. During implementation, the Commission monitors enforcement across Member States, offers guidance to ensure consistency, and addresses challenges related to compliance. Additionally, it works to prevent sanctions evasion, collaborates with international partners, and evaluates the effectiveness of measures, ensuring their alignment with EU policy objectives. For instance, it has prepared guidance on how to identify Russian evasion practices and to protect G7 technology from misappropriation<sup>157</sup>, as well as guidance by multilateral Russian Elites, Proxies, and Oligarchs (REPO) Task Force, setting out certain typologies of Russian sanctions evasion tactics and recommendations on how to mitigate the risk of exposure to continued evasion<sup>158</sup>

<sup>157</sup> Preventing Russian export control and sanctions evasion - Updated guidance for industry. European Commission, 24 September 2024. [https://finance.ec.europa.eu/publications/preventing-russian-export-control-and-sanctions-evasion-updated-guidance-industry\\_en](https://finance.ec.europa.eu/publications/preventing-russian-export-control-and-sanctions-evasion-updated-guidance-industry_en)

<sup>158</sup> REPO global advisory on Russian sanctions evasion. European Commission, 9 March 2023. [https://finance.ec.europa.eu/publications/repo-global-advisory-russian-sanctions-evasion\\_en](https://finance.ec.europa.eu/publications/repo-global-advisory-russian-sanctions-evasion_en)

Implementation and enforcement of EU sanctions is primarily the responsibility of the EU Member States. The competent authorities in the Member States have to assess whether there has been a breach of the legislation and to take adequate steps. In addition to the varying extents to which Member States enforce sanctions, differences can also be seen in their interpretation of restrictive measures. For instance, to determine the scope of the freezing of funds and economic resources of designated persons, national competent authorities and economic operators must assess whether the designated person or entity has ownership or control over specific funds or economic resources. Despite guidance issued by the European Commission and the Council,<sup>159</sup> such assessment can lead to different results among Member States, which means that the same company can be treated as frozen in some Member States and not in others.<sup>160</sup>

As of now, the EU does not have a single, unified framework for investigating sanctions violations. While the EU provides overarching regulations and guidelines, each country enforces sanctions through its own national authorities. Furthermore, the publicity of penalties for sanctions violations and of derogations granted by national authorities is inconsistent among Member States, which hinders economic operators from grasping the scope of their obligations and rights under the different EU sanctions regimes.

EU restrictive measures only apply on Union territory, to EU citizens wherever they are located and to third-country nationals outside the territory of the Union in respect of business conducted within the Union. Because of this limited scope of application, it has been observed that some third country operators or even third countries themselves, act as transit destinations for products covered by prohibitions under EU sanctions regimes.

For example, in March 2024, the CEO of Luminor Oy and Siberica Oy, Finland-based logistics and warehouse companies, was sentenced to a nine-month suspended prison sentence and was ordered to pay €11,000 to the Finnish state, which corresponds to the proceeds of the offence. The CEO was found guilty of having facilitated the export of industrial goods from Germany to Russia by falsifying their destination in breach of EU restrictive measures<sup>161</sup>.

### *Due diligence and KYC policies*

The EU's Know Your Customer (KYC) policy is a part of anti-money laundering (AML) and counter-terrorism financing (CTF) efforts. It is designed to ensure transparency, verify customer identities, assess risks, and prevent financial crimes, including sanctions evasion. The European Commission develops and updates AML and KYC regulations under the Anti-Money Laundering

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<sup>159</sup> Guidance on firewalls. European Commission, 29 November 2023. [https://finance.ec.europa.eu/publications/guidance-firewalls\\_en](https://finance.ec.europa.eu/publications/guidance-firewalls_en)

<sup>160</sup> Global Investigations Review, "A closer look at EU sanctions enforcement", 17 September 2024, <https://globalinvestigationsreview.com/guide/the-guide-sanctions/fifth-edition/article/closer-look-eu-sanctions-enforcement>

<sup>161</sup> *Ibid.*

Directives, provides guidelines for compliance and interpretation, and ensures EU-wide cooperation.

The Authority for Anti-Money Laundering and Countering the Financing of Terrorism (AMLA) is supposed to start operations in summer 2025 and be fully operational, conducting direct supervisions in 2028. Its main tasks will be to oversee cross-border entities and enhance EU-wide AML/KYC compliance and to facilitate cooperation between member states and ensure consistent enforcement of rules<sup>162</sup>.

On the Member States level each state has its own supervisory body that audits businesses for compliance and issues penalties for violations<sup>163</sup>. There are also Financial Intelligence Units (FIUs) that serve as national centres for the receipt and analysis of suspicious transaction reports and relevant money laundering information, associated predicate offences, and terrorist financing. FIUs analyze Suspicious Transaction Reports submitted by companies and share insights with law enforcement agencies and other FIUs in the EU as well as coordinate cross-border investigations. Additionally, all Member states maintain Beneficial Ownership registers identifying ultimate beneficial owners of companies, improving transparency and preventing economic and financial crimes<sup>164</sup>.

As for the company level, firms are supposed to submit Suspicious Transaction Reports (STRs) to national Financial Intelligence Units (FIUs) when they identify potential risks. They should take customer due diligence measures, including customer identification, assessing the risk profile of their customers and even applying enhanced measures if necessary. Training their employees and keeping records are also required<sup>165</sup>.

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<sup>162</sup> AMLA, "FAQs", [https://www.amla.europa.eu/faqs\\_en](https://www.amla.europa.eu/faqs_en)

<sup>163</sup> European Banking Authority, "List of authorities designated as competent for the AML/CTF supervision of financial institutions in the EU", [https://www.eba.europa.eu/sites/default/files/document\\_library/Regulation%20and%20Policy/Anti-Money%20Laundering%20and%20Countering%20the%20Financing%20of%20Terrorism/933494/List%20of%20Authorities%20Designated%20as%20Competent%20for%20the%20AML%20CTF%20Supervision%20of%20Financial%20Institutions%20in%20the%20EU.pdf](https://www.eba.europa.eu/sites/default/files/document_library/Regulation%20and%20Policy/Anti-Money%20Laundering%20and%20Countering%20the%20Financing%20of%20Terrorism/933494/List%20of%20Authorities%20Designated%20as%20Competent%20for%20the%20AML%20CTF%20Supervision%20of%20Financial%20Institutions%20in%20the%20EU.pdf)

<sup>164</sup> Beneficial ownership registers interconnection system (BORIS), [https://e-justice.europa.eu/38590/EN/beneficial\\_ownership\\_registers\\_interconnection\\_system\\_boris?init=true&idS\\_ubpage=1](https://e-justice.europa.eu/38590/EN/beneficial_ownership_registers_interconnection_system_boris?init=true&idS_ubpage=1)

<sup>165</sup> EUR-Lex, "Directive (EU) 2015/849", <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32015L0849>

## Brief Overview of Sanctions Against the 'Quartet of Chaos'

### Russia

Since the full-scale invasion of Ukraine in 2022, Russia has become the most sanctioned country in the world.

The EU's commitment to holding perpetrators accountable translated into sanctioning high-profile individuals include Russian President Vladimir Putin, Foreign Minister Sergey Lavrov, and Russia-backed former Ukrainian President Viktor Yanukovich, alongside members of Russia's parliament, security council, military leadership, etc. Entities under sanctions include political parties, armed forces, banks, propaganda media, and companies in the military, energy, aviation, and IT sectors. The sanctions address involvement in atrocities such as the Bucha and Mariupol massacres, missile strikes, deportation and re-education of Ukrainian children, the looting of cultural heritage, etc.<sup>166</sup>

#### *EU Sanctions Imposed on Individuals/Entities from Russia (2014-2024)*

YEAR	TOTAL NUMBER OF SANCTIONED INDIVIDUALS	TOTAL NUMBER OF SANCTIONED ENTITIES	TOTAL NUMBER OF SANCTIONED INDIVIDUALS/ENTITIES
2014	111	20	131
2015	13	6	19
2016	7	0	7
2017	3	3	6
2018	14	6	20
2019	6	2	8
2020	24	11	35
2021	10	0	10
2022	1177	123	1300
2023	229	161	390
2024	234	171	405

Source: EU sanctions tracker

<https://data.europa.eu/apps/eusanctionstracker/search/WyJyZWdpbWUvVUtSI0=>

<sup>166</sup> European Council, "Sanctions against Russia Explained," accessed January 16, 2025, <https://www.consilium.europa.eu/en/policies/sanctions-against-russia-explained/#sanctions>.

The European Union has frozen €24.9 billion in private Russian assets and blocked €210 billion in assets belonging to the Central Bank of Russia. The windfall net profits generated from these immobilized assets are currently being utilized to support Ukraine's armed forces, defence industry, and reconstruction efforts, with funds channeled through the European Peace Facility and other EU programmes.

However, it is imperative that the frozen Russian assets in their entirety be directed toward Ukraine's reconstruction. Under no circumstances should these assets become a bargaining chip in potential peace negotiations. In January 2025, a group of MPs and politicians from allied nations published an open letter urging the establishment of a legal mechanism to transfer frozen Russian Central Bank assets to Ukraine.<sup>167</sup>

Since 2022, the European Union has implemented extensive economic sanctions on Russia, including significant export and import restrictions. These sanctions aim to weaken the Russian economy while minimizing the impact on EU businesses and citizens. The EU has banned over €48 billion in goods that would have been exported to Russia, and €91.2 billion in goods that would have been imported from Russia. This represents a 54% reduction in exports and a 58% reduction in imports compared to 2021 levels. The sanctions exclude essential goods like pharmaceuticals, food, and agricultural products to avoid harm to the Russian population. These restrictions are enforced by EU customs authorities.

However, according to the Kyiv School of economics, as of 2025, 4,054 companies, organizations and their brands from 108 countries and 58 industries were present on the Russian market, while 2,228 companies continued business operations. Out of the ten leading countries present in Russia, five are European.<sup>168</sup>

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<sup>167</sup> The Times. "Britain Must Give Russia's Frozen Assets to Ukraine, Demand MPs." *The Times*, January 2025. <https://www.thetimes.com/uk/defence/article/britain-must-give-russias-frozen-assets-to-ukraine-demand-mps-cfc5gwpqr>.

<sup>168</sup> 72nd Issue of the Regular Digest on Impact of Foreign Companies' Exit on RF Economy," Kyiv School of Economics, <https://kse.ua/about-the-school/news/72nd-issue-of-the-regular-digest-on-impact-of-foreign-companies-exit-on-rf-economy/>

	COUNTRY OF HQ	EXITED	LEAVE	STAY	TOTAL
1	USA	91	372	316	795
2	GERMANY	67	135	249	452
3	CHINA		19	235	258
4	FRANCE	33	41	111	185
5	GREAT BRITAIN	35	139	109	292
6	ITALY	8	30	101	140
7	JAPAN	18	70	94	182
8	INDIA	1	3	91	95
9	SWITZERLAND	18	67	83	168
10	TURKEY	2	4	72	79

The EU has imposed export restrictions on a wide array of goods to Russia, including cutting-edge technologies such as quantum computers, advanced semiconductors, and specific electronic components and software. There are also prohibitions on goods essential for the oil refining and energy sectors, including technology, equipment, and services used in energy production. The aviation and space industry are similarly affected, with exports of aircraft, aircraft engines, spare parts, and jet fuel being prohibited. The ban extends to maritime navigation goods and communication technologies, as well as various dual-use items like drones' engines, software for drones, and encryption devices.

Luxury goods such as cars, watches, and jewellery are also banned from being exported to Russia, along with arms and related material, which include civilian firearms and their components. The EU embargo also covers a range of industrial products, including chemicals, generators, thermostats, IT components, and electronics like cameras, toy drones, laptops, and hard drives.

On the import side, the EU has banned the import of various Russian products, including crude oil and refined petroleum products, liquefied petroleum gas, coal, and certain metals like steel, iron, and aluminium. Other banned imports include raw materials such as copper and wood, as well as seafood, spirits, cigarettes, and cosmetics. The embargo also covers diamonds and gold, including jewellery, further extending the financial pressure on Russia's economy. The import ban also encompasses other goods that could enhance Russia's industrial and technological capabilities.

As of December 2023, the European Union, in collaboration with the G7, has implemented a ban on Russian diamonds as part of efforts to curb a significant source of revenue for Russia. This ban encompasses diamonds originating from Russia, those exported from Russia, and those transiting through Russia. Additionally, diamonds processed in non-EU countries are also

prohibited if they are linked to Russia. This ban is part of broader restrictions aimed at limiting Russia's access to critical resources and technologies.

However, the European Commission services, in coordination with the competent authorities in the US, the UK and Japan, have identified several prohibited dual-use goods and advanced technology items used in Russian military systems found on the battlefield in Ukraine or critical to the development, production or use of those Russian military systems. These items include electronic components such as integrated circuits and radio frequency transceiver modules, as well as items essential for the manufacturing and testing of the electronic components of the printed circuit boards, and manufacturing of high precision complex metal components retrieved from the battlefield.

These battlefield items have been grouped into a list of Common High Priority Items. The List is divided into four Tiers containing a total of 50 (Harmonised System codes) dual-use and advanced technology items sanctioned under the Russia Sanctions Regulation and involved in Russian weapons system used against Ukraine, including e.g. the Kalibr cruise missile, the Kh-101 cruise missile, the Orlan-10 UAV and the Ka-52 "Alligator" helicopter.

Since export licensing within the EU remains under the jurisdiction of individual member states, it may lead to variations in enforcement and interpretation of regulations. Rapid development of new technologies, in particular advanced artificial intelligence, could lead to increasingly divergent Member State authority practices, fragmenting the European Union's export control regime.

Since December 2023, the European Union has introduced a regulation prohibiting exporters from re-exporting a limited range of goods to Russia or for use within Russia when selling, supplying, transferring, or exporting to non-EU countries, with the exception of partner countries. This measure covers dual-use goods, advanced technology critical to Russian military systems, particularly those used on the battlefield in Ukraine or essential for their development, as well as goods related to the production or use of these military systems. Additionally, aviation goods and weapons are also included under this prohibition.

In addition to product bans, the EU has prohibited the provision of key services to Russia. These include services related to crypto asset wallets, accounting, auditing, and tax consulting, as well as architectural, engineering, and IT consultancy. Other restricted services include legal advice, advertising, market research, technical assistance related to maritime oil transport, and the management of intellectual property rights related to embargoed goods and technologies. This comprehensive sanctions package aims to significantly hinder Russia's economic and technological capabilities.

In June 2022, the European Union implemented a sixth sanctions package against Russia, prohibiting the purchase, import, and transfer of seaborne crude oil and certain petroleum

products from Russia. The ban on crude oil took effect on 5 December 2022, and the ban on refined petroleum products began on 5 February 2023. To further limit Russia's oil revenue, the EU has introduced a price cap on seaborne Russian oil. The caps are set at \$60 per barrel for crude oil, \$45 per barrel for discounted petroleum products, and \$100 per barrel for premium products.

The EU Council addressed circumvention risks from Russia's shadow fleet in its 11th and 12th sanctions packages. In June 2024, the 14th sanctions package introduced new measures targeting vessels involved in Russia's war against Ukraine. These vessels face a port access ban and a ban on the provision of services, including those linked to Putin's dark fleet. In December 2024, the EU sanctioned 52 additional tankers to disrupt Russia's ability to evade sanctions through these vessels.

The EU has closed its ports to Russia's entire merchant fleet, comprising over 2,800 vessels. However, this measure excludes vessels transporting energy, pharmaceuticals, medical, agricultural, and food products, humanitarian aid, coal, nuclear fuel, and goods vital for civil nuclear operations. Vessels seeking refuge or making emergency calls for safety or to save lives are also exempt.

Russian and Belarusian road transport operators, trailers, and semi-trailers are banned from entering or transiting the EU, aiming to disrupt Russia's access to key goods. Exceptions are made for energy, pharmaceuticals, medical, agricultural, food products, humanitarian aid, and diplomatic transport. Mail services and goods in transit between Kaliningrad and Russia are not affected.

The EU has banned 10 Russian and four Belarusian banks from using SWIFT, preventing them from making international payments, which harms their economies. The ban also prohibits EU entities from connecting to Russia's SPFS messaging service. The sale of euro banknotes to Russia is also forbidden to prevent circumvention of sanctions.

In aviation, the EU has banned Russian carriers from accessing EU airports and airspace, including private jets. Exports of aviation goods, such as aircraft and spare parts, to Russia are also prohibited, alongside related maintenance and technical services.

A very important step was made to protect democracy by banning the broadcasting and licensing of 16 Russian media outlets, including Rossiya RTR, Sputnik, Russia Today, and others, for their role in spreading disinformation to destabilize the EU and its neighbors. This includes all forms of transmission, such as cable, satellite, and online platforms.

## *Overview of major EU sanctions against Russia*

- Arms export - It is prohibited to export arms and related materiel to Russia.
- Arms import - It is prohibited to import, purchase or transport arms and related technologies from Russia.
- Dual-use goods export - It is prohibited to sell dual-use goods and technology to any person or entity in Russia or for use in Russia.
- Financial measures - It is prohibited to provide a range of financial services to Russian nationals or persons residing in Russia and entities established in Russia or engage in financial activities with them.
- Flights, airports, aircrafts - It is prohibited for any aircraft controlled by any Russian person or entity to take off from, land in or overfly the territory of the Union.
- Intellectual Property Rights - New trademarks and patents by Russian persons or entities are not registered.
- Liquefied Natural Gas - It is prohibited to purchase, import or transfer liquefied natural gas originating in Russia or exported from Russia. goods, technology and services for the liquefied natural gas projects shall not be sold to Russia.
- Critical infrastructure - Russian nationals or persons living in Russia are forbidden to hold any posts in the governing bodies of the owners or operators of critical infrastructures.
- Media ban - It is prohibited to broadcast any content by the entities on the restriction list.
- Road transport - It is prohibited for Russian road transport companies to operate within the EU, and for any EU-based road transport entities owned 25% or more by Russian interests to engage in goods transport within the EU, including transit.
- Storage capacity - It is prohibited to provide storage capacity to Russian persons or entities.
- Ports and vessels - Access to EU ports and locks is prohibited for vessels suspected of breaching sanctions, disabling their identification systems while transporting restricted crude oil or petroleum products, performing ship-to-ship transfers, Russian-registered vessels, and any vessels on the restriction list. 79 vessels from Russia's shadow fleet are sanctioned.
- Prohibition to satisfy claims - It is prohibited to fulfill claims related to contracts affected by EU sanctions if made by sanctioned Russian entities, their majority-owned affiliates, or anyone acting on their behalf.
- Restrictions on goods - It is prohibited to sell goods which could contribute to the enhancement of Russian industrial capacities. It is also prohibited to purchase goods which generate significant revenues for Russia.

- Aviation or the space industry - It is prohibited to sell goods and technology suited for use in Russian aviation or the space industry.
- Crude oil - It is prohibited to purchase crude oil or petroleum products from Russia.
- Cultural property - It is prohibited to deal in Ukrainian cultural property or significant goods suspected of being unlawfully removed from Ukraine.
- Diamonds - It is prohibited to purchase, import, or transfer Russian diamonds and related products into the EU or any third country.
- Firearms, their parts and essential components and ammunition - It is prohibited to sell firearms, their parts and essential components and ammunition to Russia.
- Gold - It is prohibited to purchase gold from Russia.
- Iron and steel - It is prohibited to buy iron and steel products from Russia.
- Luxury goods - It is prohibited to trade luxury goods with Russia.
- Maritime navigation - It is prohibited to sell maritime navigation goods and technology to Russia and its vessels.
- Oil refining - It is prohibited to sell goods and technology suited for use in oil refining and liquefaction of natural gas to Russia.
- Other items - It is prohibited to sell specified goods or technology to Russia or for use in Russia, including to entities in the energy sector.
- Restrictions for the export of dual-use and advanced technology items to entities - The export of dual-use and advanced technology items to those involved in Russia's military-industrial complex is restricted.
- Restrictions on services - It is prohibited to provide certain services and software to the Russian government or entities in Russia.

### North Korea

The EU has imposed progressively stricter sanctions on North Korea since 2006 in response to its nuclear weapons and ballistic missile programmes, which pose a severe threat to global peace and security. The sanctions framework began with UNSCR 1718 (2006), adopted after North Korea's first nuclear test with the aim to pressure Pyongyang to rejoin the Non-Proliferation Treaty (NPT), which it withdrew from in 2003.

Further key milestones include the adoption of Council Decision (CFSP) 2016/849 and Regulation (EU) 2017/1509, which formalized and extended the sanctions regime. EU sanctions, which were reviewed in November 2023, include a wide range of restrictions targeting North Korea's economic and military capabilities.

The EU has imposed bans on the export and import of goods that could support North Korea's weapons programmes, including arms, dual-use technologies, aviation and rocket fuel, precious metals. Luxury goods have also been banned. All financial transactions and support involving the DPRK are restricted, including a ban on financial assistance, trade financing, and investment in North Korean sectors such as mining, refining, and chemicals. EU entities are prohibited from participating in or funding companies connected to illegal activities or weapons production, with exceptions allowed only for humanitarian purposes. To prevent the transport of prohibited goods, compulsory inspections are conducted on all cargo traveling to or from North Korea by land, sea, or air, as part of the EU's effort to enhance compliance with UNSCRs.

The EU has suspended all scientific and technical collaboration with North Korean entities unless explicitly exempted for purposes such as medical exchanges or other non-proliferation-related activities. A list of individuals and entities linked to North Korea's weapons programmes is maintained, subjecting them to asset freezes and travel bans, with periodic updates to reflect UN decisions or EU investigations. North Korean nationals engaged in illicit activities face restrictions on entry, residence, or employment within the EU.

*EU Sanctions Imposed on Individuals/Entities from North Korea (2014-2024)*

YEAR	TOTAL NUMBER OF SANCTIONED INDIVIDUALS	TOTAL NUMBER OF SANCTIONED ENTITIES	TOTAL NUMBER OF SANCTIONED INDIVIDUALS/ENTITIES
2014	0	1	1
2015	6	0	6
2016	42	21	63
2017	30	20	50
2018	22	1	23
2021	1	0	1
2022	16	8	24
2023	5	4	10
2024	0	1	1

Source: *EU sanctions tracker*

The EU enforces these sanctions through stringent monitoring of financial transactions, trade, and cargo inspections, coordinating closely with the UN to update measures and address emerging threats. However, challenges persist in ensuring compliance, as North Korea employs clandestine networks, front companies, and third-country intermediaries to evade restrictions.

*Overview of major EU sanctions against North Korea*

- Arms export - It is prohibited to export arms and related materiel and technology to the DPRK
- Arms procurement - Procurement from North Korea of arms, materials, and technology that could support its weapons programs, along with related assistance and services, is prohibited.
- Asset freeze and prohibition to make funds available - All assets of the listed persons and entities should be frozen.
- Dual-use goods export - It is prohibited to export dual-use goods, materials, and equipment to the DPRK.
- Financial measures - It is prohibited to provide a range of financial services to the DPRK.
- Flights, airports, aircrafts - Member States shall deny permission to land in, take off from or overfly their territory to any DPRK aircraft.
- Inspections - Member States must inspect vessels on the high seas suspected of carrying prohibited cargo and cooperate with other states in cases of illicit DPRK-related shipments
- Investments - It is prohibited for North Korea to invest in EU Member States, and all EU investments in DPRK across all sectors are banned.
- Other restrictions - It is prohibited to purchase or transfer fishing rights from North Korea, lease property to or from North Korea, and Member States must repatriate all DPRK nationals earning income.
- Ports and vessels - It is prohibited to authorize or register vessels under the DPRK flag, provide services such vessels, facilitate ship-to-ship transfers with DPRK vessels, or allow DPRK vessels to enter ports.
- Restrictions on admission - Member States shall enforce travel restrictions on listed persons.
- Restrictions on goods - It is prohibited to procure coal, iron and iron ore, export helicopters and vessels, import copper, nickel, silver, and zinc, or export condensates and natural gas liquids to North Korea.
- Aviation and jet fuel - It is prohibited to export aviation fuel to the DPRK.
- Crude oil - It is prohibited to export crude oil to the DPRK.
- Earth and stone - It is prohibited to import earth and stone, including magnesite and magnesia, from the DPRK.
- Food and agricultural products - It is prohibited to import food and agricultural products from the DPRK.

- Gold, precious metals, diamonds - It is prohibited to export gold, precious metals, diamonds to the DPRK.
- Luxury goods - It is prohibited to import or export luxury goods to or from the DPRK.
- Machinery and electrical equipment - It is prohibited to import machinery and electrical equipment from the DPRK.
- Other items - it is prohibited to deliver DPRK-denominated banknotes and coinage to the Central Bank of North Korea, import textiles, or procure statues from North Korea.
- Petrol products - It is prohibited to import petroleum products from the DPRK.
- Refined petroleum products - It is prohibited to export refined petroleum products to the DPRK.
- Seafood - It is prohibited to import seafood from the DPRK.
- Vessels - It is prohibited to import vessels from the DPRK.
- Wood - It is prohibited to import wood from the DPRK.
- Industrial machinery, transportation vehicles, and iron, steel and other metals - It is prohibited to export all industrial machinery, transportation vehicles, and iron, steel and other metals to the DPRK.
- Restrictions on services - It is prohibited to provide listed services to the DPRK.
- Training and education - Member States must prevent training in nuclear-related fields for DPRK nationals and suspend scientific cooperation with DPRK-sponsored individuals or groups.
- Vigilance - Member States should end financial commitments to North Korea and monitor DPRK diplomats to prevent involvement in prohibited activities.

## Iran

The European Union has long maintained a robust sanctions regime against Iran, aimed at addressing its nuclear ambitions, human rights violations, and military activities, particularly in relation to its support for Russia and regional destabilization.

The EU's sanctioning of Iran began in earnest in February 2007, when it introduced a range of measures to align with United Nations Security Council (UNSC) resolutions on Iran's nuclear activities. These initial sanctions included a prohibition on the direct or indirect supply, sale, or transfer of items, materials, equipment, and technology that could contribute to Iran's missile capabilities. The items covered by these restrictions were based on the Missile Technology Control Regime lists, a multilateral framework designed to prevent the spread of missile technology. These measures were formalized through Council Common Position

2007/140/CFSP, marking the EU's early commitment to non-proliferation efforts aimed at containing Iran's nuclear ambitions.

In April 2007, the EU expanded its sanctions in response to growing concerns over Iran's nuclear program. The most significant step was the imposition of a comprehensive arms embargo, which prohibited the supply of arms and related materiel of all types to Iran. This included weapons, ammunition, military vehicles, paramilitary equipment, and spare parts for such equipment.

This embargo was laid out in Council Common Position 2007/246/CFSP, and it went beyond the UN arms embargo, which was not introduced until June 2010. Unlike the UN sanctions, the EU's arms embargo encompassed all categories of arms rather than only those specified by the UN Register of Conventional Arms, reflecting the EU's broader concerns about Iran's military capabilities and its potential to destabilize the region.

The EU's sanctions were further influenced by the Joint Comprehensive Plan of Action (JCPOA), a multilateral agreement reached in 2015 aimed at curbing Iran's nuclear program. Under the terms of the JCPOA, the EU agreed to lift certain sanctions related to missile technology and arms transfers after a specified period, contingent upon Iran's compliance with the nuclear-related provisions of the deal. The timeline specified in the JCPOA called for the lifting of the sanctions on missile technology and arms transfers eight years after the deal's Implementation Day.

However, the embargo remained in effect due to concerns about Iran's adherence to the terms of the agreement, its regional military activities, missile and drone programs, as well as its support for Russia in the ongoing war in Ukraine.

The EU has also implemented financial restrictions. These include asset freezes and prohibitions on making funds available to individuals and entities involved in Iran's nuclear and ballistic missile programs, as well as those supporting Russia's war in Ukraine. The EU's asset freezes have been aimed at denying financial resources to key figures responsible for the development and proliferation of Iran's missile capabilities and its role in regional destabilization, including its support for Russia's military operations in Ukraine.

Reacting to human rights violations, in April 2011, the EU imposed sanctions on Iran in response to widespread human rights abuses, including the repression of peaceful protesters, journalists, human rights defenders, and other activists. The sanctions included travel bans and asset freezes on individuals involved in or complicit with these human rights violations.

*EU Sanctions Imposed on Individuals/Entities from Iran (2014-2024)*

YEAR	TOTAL NUMBER OF SANCTIONED INDIVIDUALS	TOTAL NUMBER OF SANCTIONED ENTITIES	TOTAL NUMBER OF SANCTIONED INDIVIDUALS/ENTITIES
2014	0	1	1
2019	1	0	1
2020	1	0	1
2021	10	11	21
2022	61	7	68
2023	104	83	187
2024	14	16	30

Source: *EU sanctions tracker*

Alongside these measures, the EU introduced restrictions on the export of certain equipment that could be used for internal repression. This included items such as riot control vehicles, razor barbed wire, and equipment for monitoring or intercepting the Internet and telephone communications. These sanctions, codified in Council Regulation No 359/2011, have been regularly updated.

In 2024, the EU introduced new measures aimed at preventing the transfer of Iranian weapons and military technologies, particularly to Russia. These measures included prohibitions on transactions with specific Iranian ports, including Amirabad and Anzali, which were reportedly used for the transfer of drones and missiles to Russia.

Additionally, in 2024, the EU expanded its sanctions on dual-use goods by including a wider range of products that could be used to enhance Iran's missile and drone programs. The EU's sanctions on Iran also continue to include measures targeting the transfer of specific metals, software, and other materials that could support Iran's nuclear program or be diverted for military use.

## *Overview of major EU sanctions against Iran*

### *Arms export*

- It is prohibited to export arms and related materiel and technology to Iran, including weapons, ammunition, military vehicles, equipment, paramilitary equipment, and spare parts. This includes the provision of associated services, as well as items listed under the EU common military list.

### *Arms procurement*

- It is prohibited to procure arms and related materiel from Iran.

### *Asset freeze and prohibition to make funds available*

- Freezing the assets of the Central Bank of Iran and of major Iranian commercial banks.
- Laying down notification and authorisation mechanisms for transfers of funds above certain amounts to Iranian financial institutions.
- All assets of individuals and entities listed in the annexes of Council Regulation (EU) No 267/2012 should be frozen. It is also prohibited to make any funds or assets directly or indirectly available to them, as well as providing specialized financial messaging services to the listed parties.

### *Embargo on dual-use goods*

- The proliferation-sensitive transfers and activities related to items listed under Annex II of Council Regulation 267/2012 are subject to prior authorization by the competent authorities of the Member State.

### *Inspections*

- Member States are required to inspect all cargo to and from Iran if there is information indicating that the cargo contains prohibited items. Upon discovery of prohibited items, they must be seized and disposed of.

### *Prohibition to satisfy claims*

- It is prohibited to satisfy claims made by Iranian persons, entities, or bodies, or those listed in the Council Regulation (EU) No 267/2012, concerning any contract or transaction affected by the measures imposed by the regulation.

### *Restrictions on admission*

- Member States must enforce travel restrictions on persons listed in the annexes of

Council Regulation (EU) No 267/2012. These restrictions apply to individuals subject to asset freezes.

#### *Restrictions on equipment used for internal repression*

- It is prohibited to export equipment that could be used for internal repression in Iran, including riot control vehicles and razor barbed wire. Related technical or financial assistance is also prohibited.

#### *Restrictions on goods*

- It is prohibited to sell, supply, transfer, export, or procure items listed in Annex III of Council Regulation (EU) 267/2012, as well as any other items determined to contribute to the development of nuclear weapon delivery systems. The provision of associated services is also prohibited.
- Proliferation-sensitive transfers and activities related to items under Annex I of Council Regulation 267/2012, including associated services and investments, are subject to prior authorization from the competent authorities. In some cases, these matters must be referred to the UN Security Council.
- The sale, supply, transfer, or export of Enterprise Resource Planning (ERP) software designed for use in nuclear and military industries, as described in Annex VIIA of Council Regulation 267/2012, is subject to prior authorization by the competent authorities.
- The sale, supply, transfer, or export of certain graphite and raw or semi-finished metals listed in Annex VIIB of Council Regulation 267/2012, as well as the provision of associated services, is subject to prior authorization by the competent authorities.

#### *Telecommunications equipment*

- It is prohibited to export equipment or software for monitoring or intercepting telecommunications in Iran, including the Internet and phone communications, as specified in Annex IV of Council Regulation (EU) No 359/2011. Related assistance for the installation, operation, or update of such equipment or software is also prohibited.

#### *Transport sector:*

- Preventing access to EU airports of Iranian cargo flights.
- A ban on the maintenance and service of Iranian cargo aircraft or vessels carrying prohibited materials or goods.

## China

The European Union has imposed a range of sanctions on China since 2019, focusing on issues such as human rights violations, China's support for Russia's military actions, and unfair trade practices.

In 2019, the EU imposed its first sanctions on Chinese individuals in response to concerns over human rights violations, particularly targeting officials responsible for repressing ethnic minorities, including the Uighurs in Xinjiang. These sanctions included travel bans and asset freezes aimed at individuals involved in serious human rights violations.

In 2020, the EU took action in response to China's implementation of the National Security Law in Hong Kong, which effectively curtailed the territory's autonomy. In response, the EU suspended its extradition agreements with Hong Kong and imposed restrictions on exports of sensitive equipment that could be used for internal repression.

The following year, the EU expanded its sanctions to include Chinese officials and entities involved in the repression of Uighurs and other minorities in Xinjiang. These measures were similar to the 2019 sanctions, involving asset freezes and travel bans. From 2020 to 2024, the EU sanctioned 8 more Chinese citizens.<sup>169</sup>

In December 2022, the EU responded to China's role in supporting Russia's military activities by proposing sanctions on Chinese firms suspected of supplying Russia with equipment for military purposes, including drones. This was part of the EU's broader strategy to prevent the circumvention of existing sanctions against Russia.

In January 2023, the EU initiated an anti-dumping investigation into Chinese imports of electric vehicles, citing concerns over unfair trade practices that could harm the European automotive industry.

In February 2024, four entities were blacklisted for supplying critical dual-use items essential to Russia's military operations.<sup>170</sup>

In June 2024, as part of its 14th sanctions package, the EU targeted 19 Chinese companies linked to Russia's war efforts.<sup>171</sup> These entities were identified for their roles in providing satellites and satellite imagery to the Wagner Group, a Russian mercenary organization.

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<sup>169</sup> EU Sanctions Tracker, <https://data.europa.eu/apps/eusanctionstracker/entities/>.

<sup>170</sup> European Commission, "EU adopts 13th package of sanctions against Russia after two years of its war of aggression against Ukraine\*", 23 February 2024, [https://ec.europa.eu/commission/presscorner/detail/en/ip\\_24\\_963](https://ec.europa.eu/commission/presscorner/detail/en/ip_24_963)

<sup>171</sup> European Council, "Russia's war of aggression against Ukraine: comprehensive EU's 14th package of sanctions cracks down on circumvention and adopts energy measures", 24 June 2024, <https://www.consilium.europa.eu/en/press/press-releases/2024/06/24/russia-s-war-of-aggression-against-ukraine-comprehensive-eu-s-14th-package-of-sanctions-cracks-down-on-circumvention-and-adopts-energy-measures/>

In December 2024, the EU expanded its sanctions framework by imposing measures on four Chinese companies supplying sensitive drone and microelectronic components to the Russian military.<sup>172</sup> Additionally, sanctions were applied to two other firms and a Chinese businesswoman for circumventing EU restrictions. In November 2024, the EU proposed new sanctions aimed at Chinese companies involved in the development and supply of strike drones used in Russia's war against Ukraine.<sup>173</sup>

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<sup>172</sup> European Council, "Russia's war of aggression against Ukraine: EU adopts 15th package of restrictive measures", 16 December 2024, <https://www.consilium.europa.eu/en/press/press-releases/2024/12/16/russia-s-war-of-aggression-against-ukraine-eu-adopts-15th-package-of-restrictive-measures/>

<sup>173</sup> Politico, "EU to press China over drones for Russia, warns of 'consequences'", 15 November 2024, <https://www.politico.eu/article/eu-china-drone-production-russia-war-in-ukraine/>

*List of sanctioned companies:*

13th package:

Guangzhou Ausay Technology Co Limited (mainland)  
Shenzhen Biguang Trading Co. Ltd (mainland)  
Yilufa Electronics Ltd. (mainland+HK)  
RG Solutions Limited (Hong Kong)

14th package:

Chang Guang Satellite Technology Co. Ltd (mainland)  
China Head Aerospace Group (mainland)  
Changsha Tianyi Space Science and Technology Research (SpaceTy) (mainland)  
Shenzhen 5G High Tech Innovation Co., Ltd (mainland)  
Imaxchip (mainland+HK)  
M Star International Trading Company Limited (mainland+HK)  
Allparts Trading Co, Limited (mainland+HK)  
RX Electronics Limited (Hong Kong)  
Zixis Limited (Hong Kong)  
Win Key Limited (Hong Kong)  
Kvantek Limited (Hong Kong)  
SuperChip Limited (Hong Kong)  
Kaili Industrial HK Limited (Hong Kong)  
Most Development Limited (Hong Kong)  
Afox Corporation (Hong Kong)  
DEXP International Limited (Hong Kong)  
Agu Information Technology Co Limited (Hong Kong)  
Grants Promotion Service Limited (Hong Kong)  
Dason HK Technology Co., Ltd. (Hong Kong)

15th package:

Asia Pacific Links Ltd. (Hong Kong)  
ARCLM International Trading Co. Ltd (Hong Kong)  
Shijiazhuang Hanqiang Technology Co. (mainland)  
Juhang Aviation Technology Shenzhen Co. Limited (mainland)  
Redlepus TSK Vektor Industrial (Shenzhen) Co.,  
Ltd (mainland) Xiamen Limbach Aviation Engine Co.,  
Ltd (mainland)  
+Li Xiaocui ("Sophia Li")

## Western Tech in Authoritarian Arsenal

Despite sanctions and restrictions, imposed since 2014, Russia keeps receiving weapons, military equipment, components and machinery needed for the domestic production of a wide range of military goods. Analysis of weapons used by Russia against Ukraine, clearly demonstrate loopholes in the sanctions and export control policies.

According to the Foreign Components in Weapons database on webportal War and Sanctions<sup>174</sup> more than 4300 foreign-produced components in 155 weapon units were collected from the battlefield. Detailed photos and extensive analysis provide enough information to define possible manufacturer, country of origin and in some cases - date of production.

The Independent Anti-Corruption Commission (NAKO) examined 2,500 components in weapons used by Russia against Ukraine and found that 64% originated from the U.S.-based companies, making the United States the largest supplier of electronics. Switzerland ranked second, contributing to all but one weapon analyzed, largely due to Swiss company u-Blox, which manufactures satellite navigation systems compatible with Russia's GLONASS satellites. Other contributors included companies from the Netherlands, Taiwan, Japan, Sweden, Germany, South Korea, Spain, and Canada, each supplying at least one key component. Most components fall under Tier 1 or Tier 3 dual-use systems controlled by the 1996 Wassenaar Agreement, which prohibits transfers to states undermining international security and stability.

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<sup>174</sup> Components in the aggressor's weapon, War and Sanctions. <https://war-sanctions.gur.gov.ua/en/components>

EXAMPLES OF WEAPONS OF RUSSIA, IRAN AND NORTH KOREA WITH FOREIGN COMPONENTS (BASED ON NAKO FINDINGS)				
SYSTEM	TYPE OF SYSTEM	PRODUCING COUNTRY	COMPONENTS FROM ADVANCED INDUSTRIAL DEMOCRACIES	SUPPLIERS FROM MATURE DEMOCRACIES
KH-101	AIR-LAUNCHED CRUISE MISSILE	RUSSIA	53	USA, NETHERLANDS, SWITZERLAND, TAIWAN
KH-47M2 KINZHAL	AIR-LAUNCHED BALLISTIC MISSILE	RUSSIA	48	USA, SWITZERLAND, GERMANY, JAPAN, SPAIN, TAIWAN
3M-14 KALIBR	SEA-LAUNCHED CRUISE MISSILE	RUSSIA	45	USA, SWITZERLAND, GERMANY, JAPAN
9M728 ISKANDER	GROUND-LAUNCHED CRUISE MISSILE	RUSSIA	32	USA, SWITZERLAND, NETHERLANDS, GERMANY
9M723 ISKANDER	BALLISTIC MISSILE	RUSSIA	15	USA, SWEDEN, JAPAN, SOUTH KOREA, TAIWAN
SHAHED 136	KAMIKAZE DRONE	RUSSIA	54	USA, JAPAN, CANADA, SWITZERLAND, GERMANY, TAIWAN
KN-23/24	BALLISTIC MISSILE	NORTH KOREA	50	USA, NETHERLANDS, SWITZERLAND, UNITED KINGDOM, GERMANY, JAPAN

### Enhancing Russian Military Capacity

NAKO analysed foreign components present in Russian Ka-52 Alligator battle helicopter, 2S19M1 Msta-S self-propelled howitzer, 3M-54 Kalibr cruise missile, Kh-101 cruise missile, Orlan-10 UAV, Luch Korsar UAV, and several parts of military equipment and devices used by the Russian Army.<sup>175</sup>

<sup>175</sup> Globalization, Weaponized: Foreign Components in Weapons and Equipment Used by The Russian Army. <https://nako.org.ua/storage/pdf/2024-02-09--11:55:57-Globalization%20Weaponized.pdf>

Components of foreign origin were also found in the six aircraft pieces used by the Russian Air Forces: MiG-31I, Su-27SM3, Su-30SM, Su-34, Su-35S, and Su-57.<sup>176</sup> Some of those **components are subject to export control measures and are part of the CHPL**, thus the precise supply routes and schemes should be properly investigated. Meanwhile, in 2023, Russia spent at least \$4 billion purchasing electronics for various military purposes, including maintaining and producing its fighter jets.

Defined components have been produced by at least 244 companies from 22 countries, mainly the U.S.–64% of studied components. However, the list of other top manufacturing countries includes EU countries, such as *Germany (4,34%), France (2,59%), and The Netherlands (1,65%)*. Additionally, some of the components’ origins can be traced back to Belgium, Bulgaria, Czech Republic, Finland, and Spain. 54.45% of components in question were identified as essential for Russian weaponry.

#### **Components Produced in EU Countries Found in Russian Aircrafts**

COUNTRY	MIG-31I	SU-27SM3	SU-30SM	SU-34	SU-35S	SU-57
BELGIUM		1				
BULGARIA					1	
CZECHIA		1				1
FINLAND						1
FRANCE	1	23	10		8	16
GERMANY	11	7	14	12	39	14
SPAIN				1		
THE NETHERLANDS	5	6		3	20	3

Source: NAKO

**The Netherlands:** The absolute majority of the microcircuits from the Netherlands are alleged to be manufactured by NXP Semiconductors. Some of them could be identified as Chinese-made. Msta-S’s electronic block contains a dual D-type flip-flop, which bears a logo and electronic part of the according product made by Philips.

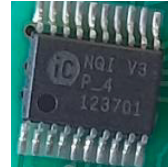
**Germany:** Luch Korsar UAV has MOSFETs produced by Infineon Technologies AG as well as inductors and transformers with characteristics of Wurth Elektronik GmbH & Co. KG. These components make Korsar’s board computer. The phase shift control module of 1L277 Sobolyatnik is also supplemented with Infineon’s microcontroller. Ebmpapst’s cooler can be found in the exciter of the Artek radio transmitter. Details made by the German manufacturer of the Japanese

<sup>176</sup> Wings of War: Analysing Western Parts in Russian Fighter Jets. July 13, 2024. <https://nako.org.ua/storage/pdf/2024-10-22-11:49:53-Wings%20of%20war%20final%20with%20qr.pdf>

Sumida Corporation appear in two Russian communication pieces of equipment. Several microcircuits manufactured by IC Haus GmbH are also present in incremental encoders from electric drive systems.



Single Board Computer in Lich Korsar made with Infineon Technologies MOSFETs



Chips by IC Haus GmbH found in the Incremental encoder

RF's domestic military air force producing capacities also rely on Computer Numerical Control (CNC) tools. Even though the main producer, United Aircraft Corporation (UAC), is sanctioned in all key jurisdictions, other companies involved in Su and MiG production fall out of sight. At least 18 different Russian military complex enterprises work on producing the analysed fighter jets. There is evidence of production chain use of machinery originating from 52 companies from at least 17 European ones, including **Germany (40,51%), Italy (3,8%), Czech Republic (5,06%), Sweden (2,53%), Austria (2,53%), Belgium (1,3%), Lithuania (1,27%), and Spain (1,3%)**.

#### CNC Machines (by producers, EU Companies) Used in the Russian Military Production

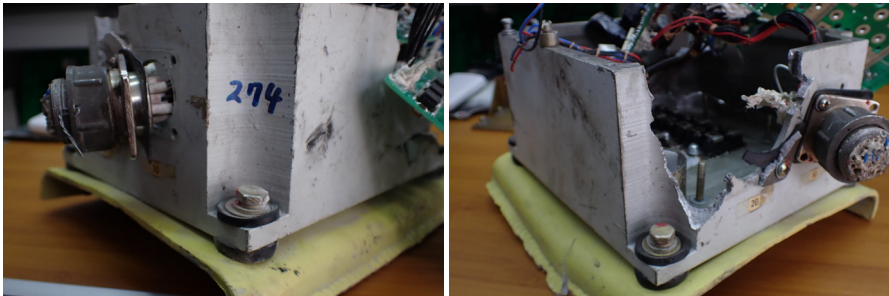
<b>Austria</b>	Engel	<b>Italy</b>	Fagima
	STM Waterjet Group	<b>Lithuania</b>	Standa
<b>Belgium</b>	Donaldson Company	<b>Spain</b>	MTorres
<b>Czech Republic</b>	Kovosvit MAS	<b>Sweden</b>	Seco Tools
	Tajmac-Zps		WJS AB
	Walter Maschinenbau GmbH		
<b>Germany</b>	Broetje-Automation	Fooke GmbH	Modler
	Chiron Group	Heidenhain	Pipe Bending Systems
	DMG Mori	Hermle	Schroff
	Emco	Hoffmann Räumtechnik GmbH	Siemens
	Eroglu	Index Group	Spinner Group

Source: NAKO

Numerous investigations proved the critical role of Western electronics, even the most primitive ones, in the modern Russian army and its military complex. For example, the report by the Royal United Services Institute (RUSI) covers 27 different military systems: cruise missiles, communications systems, and electronic warfare complexes<sup>177</sup>.

### Enhancing North Korean Military Capacities

NAKO analysed the DPRK-Produced KN-23/24 Missile. The missile with an alleged serial number 312518759 was shot down on September 7, 2024, near Myrne and Bilyky villages, Poltava Oblast, Ukraine, by the Armed Forces of Ukraine.<sup>178</sup>



The analyzed missile contains components produced by at least nine Western manufacturers, including the U.S., the Netherlands (NXP), Switzerland (STMicroelectronics, Traco Power), and the U.K (XP Power). NAKO identified the components produced in 2021, 2022 and 2023 and shipped within 2021-2024. All of the said components match Tier 1 and Tier 3. of the Common High Priority List (CHPL), developed by the BIS in cooperation with the European Union, Japan, and the United Kingdom.

Moreover, in 2024, the UK-based Conflict Armament Research determined that a North Korean ballistic missile recovered in Ukraine contained over 290 non-domestic electronic components, including parts manufactured in the United States within the past three years.<sup>179</sup>

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<sup>177</sup> Silicon Lifeline: Western Electronics at the Heart of Russia's War Machine. RUSI, August 8, 2022. <https://www.rusi.org/explore-our-research/publications/special-resources/silicon-lifeline-western-electronics-heart-russias-war-machine>

<sup>178</sup> DPRK-Produced KN-23/24 - NAKO's Analysis. October 17, 2024. [https://nako.org.ua/storage/pdf/2024-10-17--12:49:50-DPRK-produced%20KN-23\\_24%20missile-2.pdf](https://nako.org.ua/storage/pdf/2024-10-17--12:49:50-DPRK-produced%20KN-23_24%20missile-2.pdf)

<sup>179</sup> North Korean missile relies on recent electronic components. Ukraine Field Dispatch, CAR, February 2024. <https://storymaps.arcgis.com/stories/0814c6868bbd45a98b15693a31bd0e7f>

## Enhancing Iranian Military Capacity

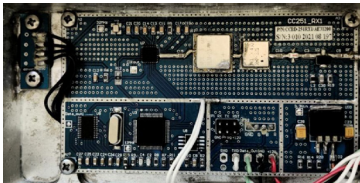
NAKO's analysis of two different Shahed-136s, downed in Odesa and Cherkasy in 2022, revealed them as having a range of Western components originating from the US, Japan, Canada, and Switzerland. These include microcontrollers, voltage regulators, transceivers, antennas, and more, providing substantial contribution to its overall capability.<sup>180</sup>

The Shahed-136 subsystems contain U-blox's GPS trackers, while German Vishay's Schottky Rectifiers are integrated into its power supply boards.

European contributions to the drone's construction include components from Swiss-based STMicroelectronics, a major supplier of microcontrollers and linear regulators. These parts are critical for the drone's power management and operational precision.

Iranian-made UAV Mohajer-6 carries several Dutch microchips in its power amplifier, modem, server entry, and automatic retranslation modules.

In addition, Canadian components were found only in the Shahed-136 and Mohajer-6, both using Tallysman's ceramic GPS/GLONASS antennas.<sup>181</sup>



*Automatic retranslation module (NXP Semiconductor) from Mohajer-6*



*U-blox's GPS tracker in Shahed-136. ECCN: 7A994*

<sup>180</sup> Ukrainian Analysis Identifies Western Supply Chain Behind Iran's Drones." *The Wall Street Journal*, November 16, 2022.

<https://www.wsj.com/articles/ukrainian-analysis-identifies-western-supply-chain-behind-irans-drones-11668575332>.

<sup>181</sup> Globalization, Weaponized: Foreign Components in Weapons and Equipment Used by the Russian Army. August 1, 2023. <https://nako.org.ua/storage/pdf/2024-02-09--11:55:57-Globalization%20Weaponized.pdf>

*Companies Whose Components Were Found in Iranian Weapons (based on NAKO data)*

**Mohajer-6**

**Eudyna Devices** (Europe)

Exar Corporation

Fairchild Semiconductor

**International Rectifier** (Europe)

Marvell Technology

Maxim Integrated

Micron Technology

MiniCircuits

Skyworks Solutions

SMSC

Spansion

TechWell Corporation

Vishay Intertechnology

Xilinx

Qorvo

**Shahed-136**

Adesto Technologies

Amrpo Computers Inc

**Hemisphere GNSS** (Europe)

**Hitec USA Group** (Europe)

Hittite Microwave Corporation

Marvell Technology

Micrel

Microchip Technology

**MinMax Technology** (Europe)

ON Semiconductor

**Vishay Intertechnology** (Europe)

Silicon Storage Technology

**Tallysman** (Europe)

**STMicroelectronics** (Europe)

Texas Instruments

Semtech

## *Patterns of Supply Chain Exploitation and Technological Leakage*

Since the initial invasion in 2014 at least ten member states of the European Union exported €346 million worth of military equipment to Russia (2015-2020).<sup>182</sup> It includes products sold under contracts which had been signed before the embargo and later extended, while others were sold as dual-use items, not military ones. Most of these imports were facilitated by private Russian companies, which constituted 97.7% of the importers. However, many entities were either shell companies or lacked clear business activities. Some were directly tied to military applications.

For instance, Russian companies Alfachip LLC and CJSC NVP Bolid were noted for supplying electronics to Russian defence systems. Alfachip LLC openly collaborated with sanctioned organizations, while Bolid provided security and military systems components. Another notable player was ARS Global LLC, a company specializing in sanctions evasion. As described on public platforms, its practices included creative workarounds to bypass international trade restrictions. None of these companies are sanctioned in the EU to this day.

In 2022, after unfolding the full-scale invasion of Ukraine, Russia has become the most sanctioned state in the world with measures specifically aimed to disrupt the flow of technology and microelectronics to Russia. However, Russia is still able to wage its war against Ukraine - the number of UAV and missile attacks on civilian and energy infrastructure proves this every other day. Among key factors enabling sustained Russian military procurement efforts, experts emphasise continued access to dual-use or fully civilian computer chips and components and Russia's adaptive ability to exploit globalized supply chains and leverage a network of third-country traders to access dual-use components for its tanks, missiles, and drones. Also, shifting geopolitical incentives have motivated many countries—such as China, India, Türkiye, and the UAE—to ignore Western sanctions and sustain trading ties with Russia<sup>183</sup>.

NAKO's analysis supports those assumptions. In general, the majority of foreign components in Russian weapons are subject to the export control measures. Customs data shows patterns of complicated supply chains through a number of third countries. For instance, the overall network of the main supplier companies for Russian fighter jets manufacturers includes at least 119 entities in different countries, mainly China and, specifically, Hong Kong (\$905.5 million, 80.4%). Apart

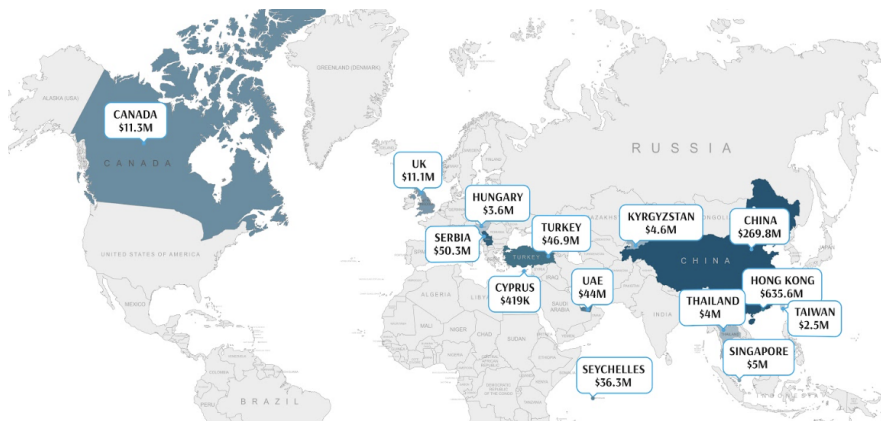
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<sup>182</sup> Globalization Weaponized. February 9, 2024.  
<https://nako.org.ua/storage/pdf/2024-02-09--11:55:57-Globalization%20Weaponized.pdf>.

<sup>183</sup> Why Russia Has Been So Resilient to Western Export Controls. Carnegie Endowment for international Peace, March 11, 2024.  
<https://carnegieendowment.org/research/2024/03/why-russia-has-been-so-resilient-to-western-export-controls?lang=en>

from these, the list of suppliers includes entities registered in the EU, in particular **Cyprus and Hungary**.<sup>184</sup>

The supply chains can be characterized by complexity and obfuscation. The goods were often routed through intermediaries in Hong Kong, China, and other regions such as Armenia, Belarus, and the UAE. These intermediaries played a crucial role in ensuring the continuity of supply despite international sanctions. The use of third-party logistics and multiple transaction points blurred the lines of accountability, making it difficult to trace the origins of the goods. Discrepancies between the countries of transaction and dispatch further highlighted the involvement of numerous intermediaries and logistical workarounds.



2023 Microelectronics Supply Chain. Source: NAKO

Hong Kong and China emerged as dominant players in facilitating these transactions, but other regions also played significant roles. Slovakia, Serbia, Turkey, and the UAE were instrumental in the trade, often acting as financial or logistical hubs. In some cases, offshore companies located in jurisdictions like the British Virgin Islands and Seychelles were pivotal, further complicating the supply chain. These companies, linked to entities exposed in Panama and Pandora Papers, were responsible for channeling millions of dollars in microelectronic shipments to Russia.

The imported goods directly supported Russia's military and industrial sectors. Companies like Ural Optical-Mechanical Plant and Avrora JSC were key beneficiaries, producing equipment such as bomb aiming systems, laser distance-measuring systems, and maritime defence control systems. Despite sanctions, these imports underscored a concerted effort to maintain and expand defence capabilities.

<sup>184</sup> Wings of War: Analysing Western Parts in Russian Fighter Jets. July 13, 2024. <https://nako.org.ua/storage/pdf/2024-10-22--11:49:53-Wings%20of%20war%20final%20with%20qr.pdf>

Regional trade patterns revealed additional insights. Central Asia, particularly Kazakhstan and Kyrgyzstan, emerged as critical nodes providing logistical support and direct transactions. Similarly, countries in the Caucasus, such as Armenia and Azerbaijan, facilitated shipments, often acting as intermediaries for Chinese and Hong Kong-based suppliers. Serbia and Turkey also played significant roles, supporting logistics and financial transactions, with Turkish companies dominating the shipment routes.

Despite the geographical diversity, the supply chains faced notable challenges. Many entities operated through opaque structures, leveraging shell companies and offshore accounts to mask their activities. This lack of transparency complicated enforcement efforts and highlighted the difficulty of restricting high-tech trade to Russia. Sanctions evasion tactics, including the use of intermediaries and third-party logistics, were pervasive, showcasing the adaptability of these networks.

## Recommendations for EU Response

1. Step up its response by leveraging its institutional strength and strategic frameworks, using Ukraine's experience in identifying circumventions, tracing evidence of restricted components in enemy weaponry, and dismantling illicit supply chains. By joining forces, the EU should show strategic alignment and readiness to resist the growing tendencies of authoritarianism, ensuring the protection of democratic values and international stability.
2. Intensify monitoring, disrupt illicit supply chains, and hold entities accountable. Strengthened communication between EU bodies, special agencies, and member states, combined with targeted sanctions on dual-use goods, will be pivotal in curbing sanctions circumvention. The European Parliament's role is essential to ensure oversight of the process and prompt reaction to political changes.
3. Consider ensuring consistency of sanctions against Russian military complex companies involved in weapons' production and supply processes, further targeting intermediaries and enablers from third countries (including China).
4. Work towards unification of the EU sanction policy across Member States, enhance monitoring and European Parliament's oversight for systematic and continuous monitoring of compliance with the sanctions and export restrictions across Member States.
5. Create mechanisms for information exchange with governments and civil society groups to better investigate existing illicit networks and paths for components or CNC machines and equipment re-export to Russia and identify ways to disrupt them.
6. Develop a joint position to introduce mandatory HS Codes in SWIFT messages for transactions involving high-risk countries prone to sanctions evasion.
7. Encourage businesses to establish robust compliance and Know Your Customer (KYC) systems and conduct comprehensive red flag assessments.
8. Renew the restrictive measures against Iran, set to expire on April 13, 2025, as they target critical areas, including arms exports, dual-use goods, financial transactions, and sanctions addressing Iran's human rights violations, military support for Russia's aggression against Ukraine, and destabilizing actions in the Middle East.
9. Prioritize investing in advanced defence capabilities while addressing its reliance on authoritarian regimes for critical raw materials and technologies. Streamlined defence procurement, overcoming fragmentation of the defence market, and increasing interoperability of weapons could support Ukraine in its victory and help to secure Europe pushing back the aggressor.

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