The Big Read Europe

Russia, Ukraine and the race for Chinese drone components

As both sides scramble to source vital parts, some experts are convinced Russian buyers are being favoured by Beijing

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On his numerous visits to the factories of southern China, Oleksandr Yakovenko finds that his hosts increasingly plan his arrivals and departures down to minutes and seconds. They sometimes ask him to wait nearby for a while, or usher him through side doors, down service corridors, or into empty conference rooms.

It took the founder of TAF Industries — now one of Ukraine's biggest drone producers — a while to realise why his arrival at the head office of a camera developer or a battery maker required such opaque rituals of schedule juggling and extreme punctuality. It was because the Russians had just been there. Or they were on their way. Or both.

"Our suppliers make an effort to manage Ukrainian and Russian customers. They try to make it so we will not be in the same factory at the same time," he tells the FT.

"They invite us for one time, but they invite the Russians for a different time. So as soon as the car with the Russians drives away, the car with Ukrainians goes in," he adds.

Drones have emerged as the most decisive and most rapidly evolving weapon in the attritional war between the two countries, accounting for three-quarters of recent casualties. Both Russia and Ukraine have moved to build up their own production capability, mostly utilising Chinese componentry.

As a result, their militaries now find themselves dependent on the same Chinese suppliers, whose processors, cameras and motors determine how far a drone can fly and how clearly it can "see" — and whose components cost a third of their western equivalents.

Thousands of miles away from the front line, Russian and Ukrainian supply chains converge in the drab industrial parks and anonymous high-rise office blocks of Guangdong and Shenzhen. Here, the companies producing the tiny components that keep the drone war alive try to choreograph the uneasy ballet that ensures the two sides never meet on the same shop floor.

Exports of some Chinese drone components have grown strongly despite additional controls

Export volume, by product and destination

FINANCIAL TIMES Source: China's General Administration of Customs • The products correspond to commodity codes 84071010 and 84111190

Technological advances often reach both sides at roughly the same time. “We might see a new video transmitter on Russian drones, and we will understand immediately what company in China produced it,” says Oleksiy Babenko of Vyriy Drone, another large supplier to the Ukrainian military. “So we write to them. Of course, they say, ‘No, it’s not ours.’ But we ask again and they say, ‘OK, we can sell it to you too.’”

The same process works in reverse, he adds. “We ask them to produce something specific for us, and a week later they send the samples to Russia and then start to produce the same thing for them.”

For Yakovenko, the irony has an edge to it. On the front line, TAF engineers frequently have to improvise amid shortages of parts, but his rivals across the trenches appear suspiciously well supplied with Chinese technology.

Officially, China is neutral in the conflict and has banned exports of sensitive drone technology to both Russia and Ukraine. But western intelligence sources and Ukrainian policymakers charge that China’s government puts its thumb on the scale, even allowing better-funded Russian companies to buy entire production lines for relocation to Russia, despite western sanctions and Chinese export controls.

Ukraine is working to localise production of drones, but Yakovenko says it remains dependent on China for about 85 per cent of the components that go into simple first-person view drones, which are piloted by remote operators assisted by onboard cameras and often used for kamikaze strikes.

A Russian Geran drone, left, among a collection of other military equipment. Based on Iranian designs, the drones are used for long-range attacks on Ukrainian cities © Scott Peterson/Getty Images

China already makes 70-80 per cent of the world's commercial drones and dominates production of critical elements such as speed controllers, sensors, cameras and propellers, according to analytics provider Drone Industry Insights.

That has made it a hidden fulcrum in the conflict. "It just puts into perspective how much control the Chinese actually have over the outcome of this war," says Catarina Buchatskiy of the Snake Island Institute, a Kyiv-based military think-tank.

"They could just choose to supply or not to supply the Ukrainians. I mean, the drone is such a definitive battlefield weapon now. It underlines how China has kind of evolved into a really influential player."

China's Ministry of Foreign Affairs said the country had "always maintained an objective and just position on the Ukraine crisis" and had "never supplied lethal weapons to any party to the conflict and strictly controls the export of dual-use items, including drones".

While Moscow and Washington haggle over an elusive ceasefire, outcomes on the battlefield are increasingly being determined in Guangdong and Zhejiang exhibition halls, message groups on WeChat and by friendships formed over baijiu drinking sessions at hotel bars.

“It’s crazy,” adds Buchatskiy, “because we have a hot war happening on our border, and then over on another continent both sides are in the same group chat where some Chinese factory is saying, ‘Oh, the Russians are paying more. So sorry, come back next year.’”

At one of the world’s largest drone trade shows, in Shenzhen last year, Chinese companies mixed easily with eastern European buyers. Stalls touting everything from whole drones to motors, cameras, software and a gun-touting robot dog spilled out across the vast Shenzhen Convention and Exhibition Center.

Among the more than 800 exhibitors of industrial and civilian technology, several companies flaunted aircraft with model guns or missiles attached. Despite the fair’s commercial focus, multiple buyers and sellers say their main clients were domestic and foreign militaries.

A Russian engineer, who declined to be named, said he was seeking components including flight controllers, radio links and thermal cameras, as well as intelligent software systems to help control the devices.

A drone specialist assembles equipment in a Ukrainian military workshop in Kharkiv region. Kyiv and Moscow have sought to build domestic production capability © Viacheslav Madiievskyi/Ukrinform/Sipa/Reuters

Part of a large sourcing team wearing matching black polo shirts, he added that shipping the devices from China was “not easy” but that “we have some channels”, on which he declined to elaborate. “The whole world hates us,” he added, of the various restrictions on shipping drones to Russia.

At the booth of one infrared camera manufacturer, a director said the company did not sell directly in overseas markets. Pressed about the steady stream of Russian-speaking visitors to his stall, he added that overseas business was conducted through trading companies. “That’s quite sensitive,” he said, but declined to provide further details.

At another Shenzhen drone expo held on the city’s industrial outskirts at the end of September, a Russian employee at a Chinese drone parts supplier said some drones entered Russia on trucks that had travelled through Kazakhstan, adding that customs checks there were infrequent.

Beijing restricts the export of so-called dual-use technology, including a wide array of drones and related components, and has tightened these regulations frequently since the outbreak of the conflict in Ukraine. In September 2024, it imposed export controls on a range of products needed to make battlefield drones, such as flight controllers, carbon frames, motors, radio modules and navigation cameras.

But Zhao Yan, a representative for state-owned Shanxi Xitou UAV Intelligent Manufacturing, concedes it can be difficult to be sure who a drone's end user is or what they might use it for, given the adaptability of drones and the proliferation of trading intermediaries

"All we can do is . . . for each drone, you tell us what you want to put in it, what kind of lift it needs, and if it meets the technical specifications, then that's fine," he said. "As for the buyer, if they are a general user and they modify it further — that's something we can't control."

Other exporters complain that previous workarounds, such as shipping drones in individual parts for customers to assemble, have become more difficult. Some larger companies say that they are familiar with the customs process and that securing export licences is not a problem, but smaller ones are increasingly reliant on expensive third-party freight forwarders, which use obscure routes.

The FT was approached three times during the first day of one Shenzhen drone fair by roaming salespeople whose business cards offered to ship “sensitive goods”, including drones. When contacted, a representative for Shunfayi International Logistics said that the company had “over 20 years of experience in battery and drone transportation in Russia” and confirmed that various fixed-wing drones depicted in photos could still be shipped to the country.

Chinese parts still show up in Russian drones that have been shot down. Ukrainian armed forces last year published photos of a two-stroke engine with intact serial number recovered from an intercepted Gerbera drone. The manufacturer was identified as Yunnan-based Mile Haoxiang Technology, according to Frontelligence Insight, although experts caution that the presence of Chinese parts does not prove an intent to supply Russia.

They also point out that components from many countries are routinely found in downed Russian drones. Analysis by the Centre for Defence Reforms, a Kyiv think-tank, showed that Chinese parts narrowly edged out US parts in 2025, with Swiss components coming in third.

Mile Haoxiang did not respond to a request for comment.

Eveline Buchatskiy, managing partner of D3, a Ukrainian venture capital firm investing in defence companies, says both countries can easily evade export restrictions, for instance by creating intermediary entities in Germany or Poland.

“There are all these loopholes,” she adds. “And so [export controls] just created a little bit of friction in the supply chain, but it certainly has not interrupted it at all.”

Buchatskiy also says that Russia “has been doing a lot of relocation of Chinese factories — they’re buying up the supply lines and then because they’ve always outbid, we are way behind the queue”.

An intercepted Russian Gerbera drone near the front line in the eastern Donetsk region. Chinese parts have been found in Russian drones that have been shot down © Maciek Musialek/Anadolu/Getty Images

Babenko at Vyriy Drone recalls receiving a phone call from a Chinese factory, in which he was told he could now buy any number of a type of motor that had previously been unavailable. The reason, he was told, was that the Russians had opted to buy an entire production line instead of components. They no longer needed the motors that had been allocated to them.

Ukraine's President Volodymyr Zelenskyy has also stated that Chinese firms operate in Russia. "There are production lines on Russian territory where there are Chinese representatives."

Zelenskyy and others have repeatedly alleged that China's government helps Russia import drone technology by selectively enforcing its own export controls.

"We once relied on Chinese Mavic drones . . . [Sales of] these are now blocked for Ukraine but remain open to Russia," he said last May. "Our forces now self-produce drones."

Ukraine has made "great progress" in localising drone production, says Babenko. But it remains dependent on China for key components and is vulnerable to export and routing restrictions and political pressure.

Yakovenko adds that while relocating Chinese production lines is possible, they would instantly become targets for Russian strikes.

Russia, buttressed by a strong friendship between its president, Vladimir Putin, and his Chinese counterpart, Xi Jinping, has deepened its economic integration with China and deployed state resources to secure a far more stable flow of components, which include entire manufacturing chains.

"Chinese equipment, materials and components enable the Russians to deploy so-called local engine production while in reality remaining tied to the Chinese technological and raw-material supply chain," says Oleksandr Danylyuk of the Centre for Defence Reforms.

Output of the Geran and Garpiya drones, which are based on Iranian designs and used for long-range attacks on Ukrainian cities, has increased significantly. Launches have risen from dozens per month in 2022 to an average of more than 5,000 per month by November.

The US Treasury department in October 2024 imposed sanctions on two Chinese companies for selling Russia the parts to produce the Garpiya drone: Xiamen Limbach Aircraft Engine Co and Redlepus Vector Industry Shenzhen Co.

Emergency service workers retrieve the engine of a Russian attack drone after a strike in Kharkiv. The use of drones in the conflict has increased rapidly © Mykyta Kuznetsiv/Global Images Ukraine/Getty Images

The same package of measures targeted Russia's Izhevsk Electromechanical Plant Kupol, a subsidiary of Almaz-Antey, a state-owned weapons conglomerate that is already under sanctions, and TSK Vektor, a trading company that "serves as an intermediary between [Izhevsk] and the China-based suppliers for Russia's Garpiya project", the Treasury department said. Izhevsk "co-ordinates the production of the Garpiya series at factories in China before transferring the weapons to Russia".

The department said this trade was financed by regional clearing platforms, which facilitate the settlement of payments for goods under sanctions, and that it imposed sanctions on 15 such platforms in January 2025.

One cross-border business deal drew particular attention in security circles, as experts said it would have been unlikely to go ahead without some degree of Chinese government approval. In November, the FT reported that Wang Dinghua, a Shenzhen-based businessman, owned a 5 per cent stake in Rustakt, a manufacturer of the VT-40 drone widely used by Russia to attack Ukrainian forces. Shenzhen Minghuaxin and other companies owned by Wang have been big suppliers of drone parts to Rustakt.

Other western officials say the Chinese state appeared to be directly helping Chinese sellers and a Russian buyer evade western sanctions and China's export controls.

"We understand that a Chinese state-linked company was assisting a Russian defence company with circumventing Chinese government export controls, by using a central Asian country as a proxy end-user," say the officials.

They did not disclose the identity of the state-linked company or the central Asian country. US Treasury sanctions from January refer to Kyrgyzstan-based Keremet Bank as the operator of the regional financial clearing platform. Keremet did not respond to a request for comment.

"Following the US Treasury exposure of the [Russian counterparty] in August 2025, we understood that Russia and China kept the mechanism operational and set up new front companies in an attempt to evade further sanctions," the officials add.

In response to questions from the FT about the drone exports to Russia, China's foreign ministry said it had no relevant information on them. It added that while it remained strictly neutral on the conflict in Ukraine, it "has always opposed unilateral sanctions that have no basis in international law and are not authorised by the UN Security Council, and will resolutely safeguard the legitimate rights and interests of Chinese enterprises".

But Sir Richard Moore, the former head of Britain's MI6, said before stepping down in September that there was no doubt Beijing's backing had been critical in prolonging the Ukraine war.

"It is the support that China has consistently given to Russia, both diplomatically and also in terms of dual-use goods — the 'made in China' chemicals that end up in their shells, the electronic components that end up in their missiles — that have prevented Putin from reaching the conclusion that peace is his best option."

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