



## Russian Decoy Drones that Depend on Western Parts Pose a Great Challenge to Ukrainian Defenses

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Russia has developed and deployed several types of decoy drones to assist missile and drone strikes on Ukraine. This report discusses two of those decoy drones, the Gerbera (also known as Gerber) and the Parody (also known as Parodiya) UAVs that mimic the Shahed 136 and other drone systems. Both of these drones can be mass produced quickly and are built from simple materials like plywood, foam, and a few electronics, making them inexpensive compared to their more costly counterparts.

Ukraine has become increasingly proficient at identifying, tracking, and intercepting Russian airborne platforms, like missiles and drones. To increase the effectiveness of Russian barrages, these decoy drones are launched in large numbers alongside missiles and attack drones, like the Shahed 136 and Lancet-3, to overwhelm and confuse Ukrainian defenses to draw anti-aircraft fire on the decoys, allowing other weapons to reach their targets. Ukrainian defenders can never be entirely certain that an incoming drone does not carry an explosive warhead, forcing them to expend valuable munitions intercepting these drones. Because Ukraine has limited stockpiles of interceptor missiles, anti-aircraft artillery ammunition, and hunter-killer-drones, deploying decoy drones is a viable strategy to wear down Ukrainian defenders. Using decoy drones can also help Russian forces identify where Ukraine has positioned anti-aircraft defenses, radar, and electronic warfare systems, and target those in subsequent attacks.

### The Gerbera Drone

The Gerbera is a multi-functional decoy drone designed to mimic the shape of a Shahed 136, although it is slightly smaller (see Figure 1). Open-source materials suggest that the drone first appeared on the battlefield in late July 2024.<sup>1</sup> Despite the size of the drone, its flying V-wing design allows it to be easily mistaken for a Shahed 136 visually and through other means of detection, making it ideal to accompany Shahed 136 barrages.

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<sup>1</sup> Olga Khimyak, "Foam 'Gerbera': what is known about the new Russian drone that attacked Ukraine twice (video)," Focus, July 29, 2024, <https://focus.ua/digital/660119-penoplastovaya-gerbera-cto-izvestno-o-novom-rossiyskom-drone-kotoryy-dvazhdy-atakoval-ukrainu-video>.

The Gerbera reportedly has several other capabilities beyond just being a decoy. The Ukrainian Main Intelligence Directorate of the Ministry of Defense has identified in November 2024 certain versions of the drone with a small warhead or electronic reconnaissance capabilities.<sup>2</sup> Some models appear to have the ability to carry a small explosive charge, roughly 10 kg of explosives (although not all Gerbera drones contain an explosive charge). However, Gerberas installed with an explosive charge likely have a much shorter flight range.<sup>3</sup> Some other models have reconnaissance capabilities through visual or electronic means. The drone's reconnaissance capabilities enable it to record hits by other attack drones and identify radar or other transmitting systems.<sup>4</sup>

Open-source photographic evidence released by the Ukrainian Armed Forces of destroyed Gerbera drones shows that the airframe is built from an internal plywood frame covered by a painted foam body to give it a form of camouflage (see Figure 2). An analysis of the electronic sub-components identified by Ukraine shows that the vast majority of them are designed and produced by Western firms (see Figure 4 below, and Table 1 in the Annex).<sup>5</sup> Many of these electronics have been found in the Shahed 136 and other drone systems, meaning the Russians are very familiar with using these electronics. The Gerbera drone contained electronics from companies whose electronics show up over and over again in downed drones, suggesting inadequate due diligence. They include prominent Western companies such as Texas Instruments, Analog Devices, Xilinx, U-Blox, and STMicroelectronics.

Only a small number of the sub-components are produced by Chinese firms. None of the electronic sub-components identified by Ukraine are produced by Russian firms, highlighting Russia's deep dependence on outside sourcing and supply chains to produce even this simple decoy drone. It should be noted that the list of the sub-components contained in Table 1 is not exhaustive and likely more sub-components were installed in the drone and were not recovered or were destroyed. Open-source materials suggest that the anti-jamming system may be similar to Kometa, a guidance system used in the Shahed 136.<sup>6</sup> Kometa is an advanced anti-jamming system routinely used in the Shahed 136, that has been effective in defeating Ukrainian electronic warfare measures.<sup>7</sup> The camera reportedly installed on the Gerbera that is

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<sup>2</sup> @DIUkraine, November 18, 2024, <https://t.me/DIUkraine/4846>.

<sup>3</sup> "The drone found in Kyiv region turned out to be a new Russian Gerbera UAV," Ukraine Military Center, July 29, 2024, <https://mil.in.ua/en/news/the-drone-found-in-kyiv-region-turned-out-to-be-a-new-russian-gerbera-uav/>.

<sup>4</sup> Daniela Dolotova, "Gerber UAV: characteristics of the Russian drone and what it is made of," Vikna, November 18, 2024, <https://vikna.tv/ru/dlia-tebe/vijna-v-ukrayini/bpla-gerbera-harakteristiki-i-czena-novogo-besplotnika/>.

<sup>5</sup> "Components in the aggressor's weapon: Gerbera UAV," War Sanctions Ukraine Government, December 17, 2024, [https://war-sanctions.gur.gov.ua/components?f%5Bcountry\\_id%5D=&f%5Bmanufacturer\\_id%5D=&f%5Btitle\\_uk%5D=wgroup-329&f%5Bsearch%5D=&i%5Bmarking%5D=&page=1&per-page=12](https://war-sanctions.gur.gov.ua/components?f%5Bcountry_id%5D=&f%5Bmanufacturer_id%5D=&f%5Btitle_uk%5D=wgroup-329&f%5Bsearch%5D=&i%5Bmarking%5D=&page=1&per-page=12).

<sup>6</sup> @akovalenko1989, July 31, 2024, <https://t.me/akovalenko1989/7620>.

<sup>7</sup> David Albright and Sarah Burkhard, "Electronics in the Shahed-136 Kamikaze Drone," *Institute for Science and International Security*, November 14, 2024, <https://isis-online.org/isis-reports/detail/electronics-in-the-shahed-136-kamikaze-drone>.

used for its visual identification capabilities is a Chinese Topotek brand KHY10S90 HD camera.<sup>8</sup> For the engine, the Gerbera is typically powered by an inexpensive DLE60 two-stroke 60CC internal combustion engine (see Figure 3). The DLE60 is produced by Mile Hao Xiang Technology Co, Ltd. and exported from China to Russia.<sup>9</sup> Often, this engine is used by model airplane hobbyists and can be purchased off-the-shelf from several retail vendors, like Aliexpress.com or directly from the manufacturer. Mile Hao Xiang Technology Co, Ltd. is a U.S. sanctioned entity for being “involved in the supply of components to Russian customers” for its war in Ukraine.<sup>10</sup> Another type of engine has been identified in a recovered Gerbera drone, a Stinger 70CC twin internal combustion engine produced by the Chinese company RCGF STINGER CO., LIMITED, also known as Stinger Engines.<sup>11 12</sup>

## Production

The Gerbera is being produced by JSC Alabuga at its Special Economic Zone (SEZ) in Yelabuga, Tatarstan, Russia. After the start of the Ukraine war, JSC Alabuga moved to produce drones for the Russian military. While it was most successful at acquiring the Russian-funded contract to build the Shahed 136 drone under a franchise arrangement with Iran, it had always proposed building decoy drones. Current information suggests that JSC Alabuga is now able to produce up to 50 Gerbera drones per day.

These drones can be built quickly and in very large numbers due to their simple design, limited parts, and cheap materials, allowing Russia to mass produce very large stockpiles of these drones on short notice. Ukrainian officials estimate that the drone costs \$10,000 to produce, a fraction of the cost of the Shahed 136 or other drone systems used by Russia.<sup>13</sup> For example, JSC Alabuga estimated that once it had paid off all the associated franchise costs to Iran, it could build a Shahed 136 drone for about \$70,000.

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<sup>8</sup> “KHY10S90 10x Optical zoom IRCUT 3-Axis Gimbal camera, IP/HDMI output,” *Topotek*, December 17, 2024, <https://topotek.com/KHY10S90-10x-Optical-zoom-IRCUT-3-Axis-Gimbal-camera-IPHDMI-output-p4688404.html>.

<sup>9</sup> “DLE60,” Mile Hao Xiang Technology Co, Ltd., December 17, 2024, <https://www.dlengine.com/en/rcengine/dle60/>.

<sup>10</sup> “Taking Additional Measures to Degrade Russia’s Wartime Economy,” United States State Department, June 12, 2024, <https://www.state.gov/taking-additional-measures-to-degrade-russias-wartime-economy/>.

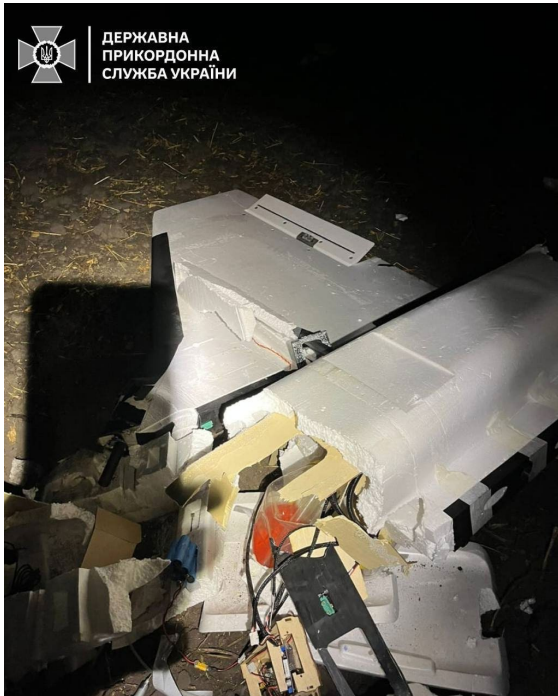
<sup>11</sup> “STINGER 70 TWIN with Starter,” Stinger Engine, December 17, 2024, <https://www.stingerengine.cn/product/stinger-70-twin/>.

<sup>12</sup> “Engine from Gerber UAV RCGF STINGER 70CC TWIN (SE-70T)#gerbera #engine #UAV #stinger,” @vGamBIT, December 16, 2024, <https://www.youtube.com/watch?v=62uWF27tVz8>.

<sup>13</sup> Tom Balmforth, “Exclusive: Russia deploys cheap drones to locate Ukraine’s air defences,” Reuters, July 26, 2024, <https://www.reuters.com/world/europe/russia-deploys-cheap-drones-locate-ukraines-air-defences-2024-07-26/>.



**Figure 1.** Gerbera decoy drones on display. The design is very similar to the Shahed 136.<sup>14</sup>



**Figure 2.** A downed Gerbera decoy drone, showing the foam body and internal plywood structure housing the electronics, engine, and fuel systems.<sup>15</sup>

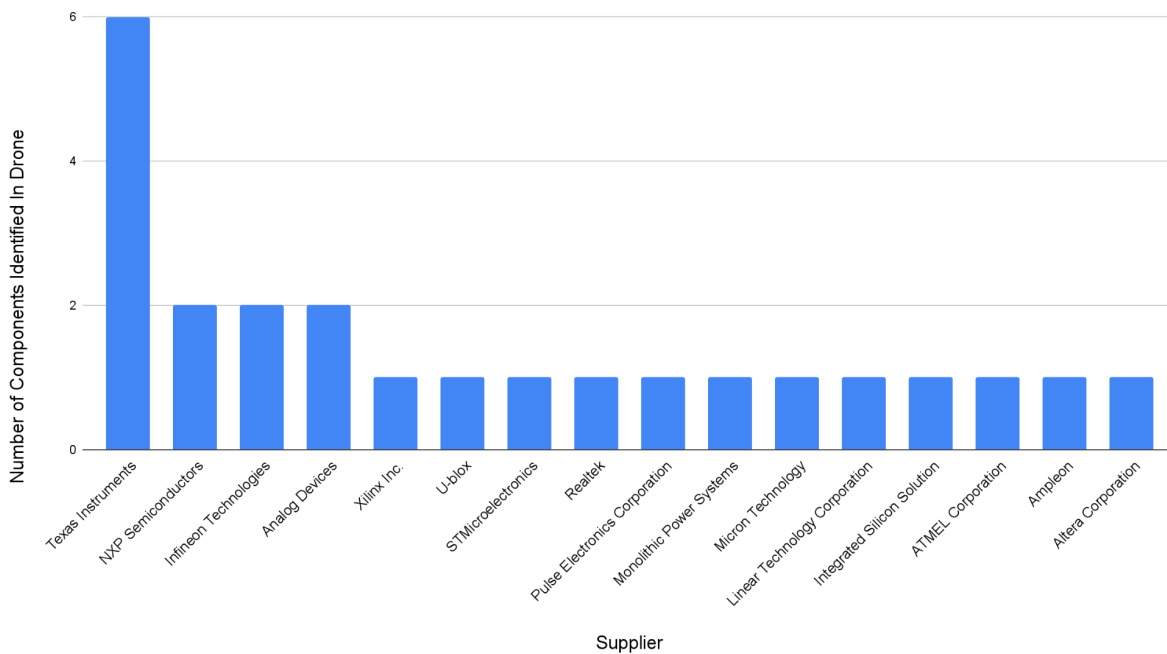
<sup>14</sup> @war\_home, October 25, 2024, [https://t.me/war\\_home/2891](https://t.me/war_home/2891).

<sup>15</sup> @war\_home, October 6, 2024, [https://t.me/war\\_home/2735](https://t.me/war_home/2735).



**Figure 3.** A DLE60 Chinese internal combustion engine found in a destroyed Gerbera drone operating in Ukraine.<sup>16</sup>

**Frequency Distribution of Western Suppliers of Components Identified in the Gerbera Drone**



**Figure 4.** A frequency distribution of the Western suppliers of components identified in the Gerbera drone.

<sup>16</sup> @war\_home, August 1, 2024, [https://t.me/war\\_home/2102](https://t.me/war_home/2102).

## Parody UAV

The Parody (also known as the Parodiya) is a UAV with a high-wing monoplane design built from cheap plywood materials and assembled in a composite structure that is much smaller than the Shahed 136 (see Figure 5). The wing can be installed prior to launch. The drone is designed to be expendable and very inexpensive to produce. Visually, the Parody could be compared to an Orlan-10, a reconnaissance drone used in visual identification targeting roles, which also has the generic high-wing monoplane design, but the respective drones fill very different roles and have different capabilities.<sup>17</sup> The high-wing monoplane design is used in numerous other Russian drones.<sup>18</sup> It is unclear where the drone is being produced inside Russia. The drone has been observed operating during Shahed 136 barrage attacks to fill a decoy role that distracts Ukrainian defenders and draws anti-aircraft fire away from the primary combat drones.<sup>19</sup> Unlike the Gerbera, the drone is not known to carry any explosive charge and is instead used in purely a decoy role.

Despite the Parody's different structural design and smaller size, the drone can mimic the radar signature of a Shahed 136 because it is installed with Luneburg lenses (see Figure 6). Luneburg lenses allow the Parody to appear larger than it actually is on radar, giving it a radar cross section similar to a Shahed 136.<sup>20 21</sup>

Table 2 in the Annex contains a list of the sub-components identified in the Parody UAV by the Armed Forces of Ukraine. As noted above, this list is likely not exhaustive, and components have yet to be identified or found. The majority of the components identified by Ukraine are designed and produced by Western firms, although some are produced by Chinese firms (see Figure 7 for a frequency distribution of the Western suppliers identified). As with the Gerbera, the Parody contained electronics from Western companies whose electronics show up over and over again in downed drones, such as Texas Instruments and STMicroelectronics. The engine

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<sup>17</sup> Spencer Faragasso, "Russian Military UAV Used in Ukraine Depends on Foreign Parts," *Institute for Science and International Security*, May 11, 2024, <https://isis-online.org/isis-reports/detail/russian-military-uav-used-in-ukraine-depends-on-foreign-parts/>.

<sup>18</sup> "How to Distinguish Between Russian and Ukrainian UAVs in the Sky (Photo Comparison)," *Defense Express*, June 4, 2022, [https://en.defence-ua.com/weapon\\_and\\_tech/how\\_to\\_distinguish\\_between\\_russian\\_and\\_ukrainian\\_uavs\\_in\\_the\\_sky\\_photo\\_comparison-3180.html](https://en.defence-ua.com/weapon_and_tech/how_to_distinguish_between_russian_and_ukrainian_uavs_in_the_sky_photo_comparison-3180.html).

<sup>19</sup> "The Russian 'Parodies' Drones Fell in Moldova Contain Western-Made Components," *Defense Intelligence of Ukraine*, November 11, 2024, <https://gur.gov.ua/en/content/parodii-z-rf-vpaly-u-moldovi-z-choho-skladaiutsia-falsh-drony-iaki-ahresor-masovo-zastosovuie-u-povitrianykh-atakakh>.

<sup>20</sup> "The Russian Drone 'Parody' is a Superior Version of the Foam 'Gerbera,' Launched Alongside the 'Shaheds,'" *Swoboda*, December 17, 2024, <https://swoboda.in.ua/en/interesyi-1/rosjskij-dron-parodiya-yaksnshij-analog-1>.

<sup>21</sup> "How and Why Russia Uses Luneburg Lenses in Drones and Whether the Armed Forces of Ukraine Have Them," *Defense Express*, October 21, 2024, [https://en.defence-ua.com/weapon\\_and\\_tech/how\\_and\\_why\\_russia\\_uses\\_luneburg\\_lenses\\_in\\_drones\\_and\\_whether\\_the\\_armed\\_forces\\_of\\_ukraine\\_have\\_them-12265.html](https://en.defence-ua.com/weapon_and_tech/how_and_why_russia_uses_luneburg_lenses_in_drones_and_whether_the_armed_forces_of_ukraine_have_them-12265.html).

found in destroyed Parody decoy drones is an inexpensive DLE55RA 55CC two-stroke internal combustion engine produced by Mile Hao Xiang Technology Co, Ltd.<sup>22</sup> Like the Gerbera, the engine is a mass market product typically used by hobbyists in model airplanes and is available off-the-shelf.<sup>23</sup>



**Figure 5.** Russian Parody decoy drone on the territory of Moldova. November 10, 2024. Photo credits: Police of Moldova.<sup>24</sup>

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<sup>22</sup> @DIUkraine, November 18, 2024, <https://t.me/DIUkraine/4846>.

<sup>23</sup> "DLE55RA," Mile Hao Xiang Technology Co, Ltd., December 17, 2024, <https://www.dlengine.com/en/rcengine/dle55ra/>.

<sup>24</sup> "Russian Parody decoy drone flies into Moldova," Ukrainian Military Center, November 10, 2024, <https://mil.in.ua/en/news/russian-parody-decoy-drone-flies-into-moldova/>.



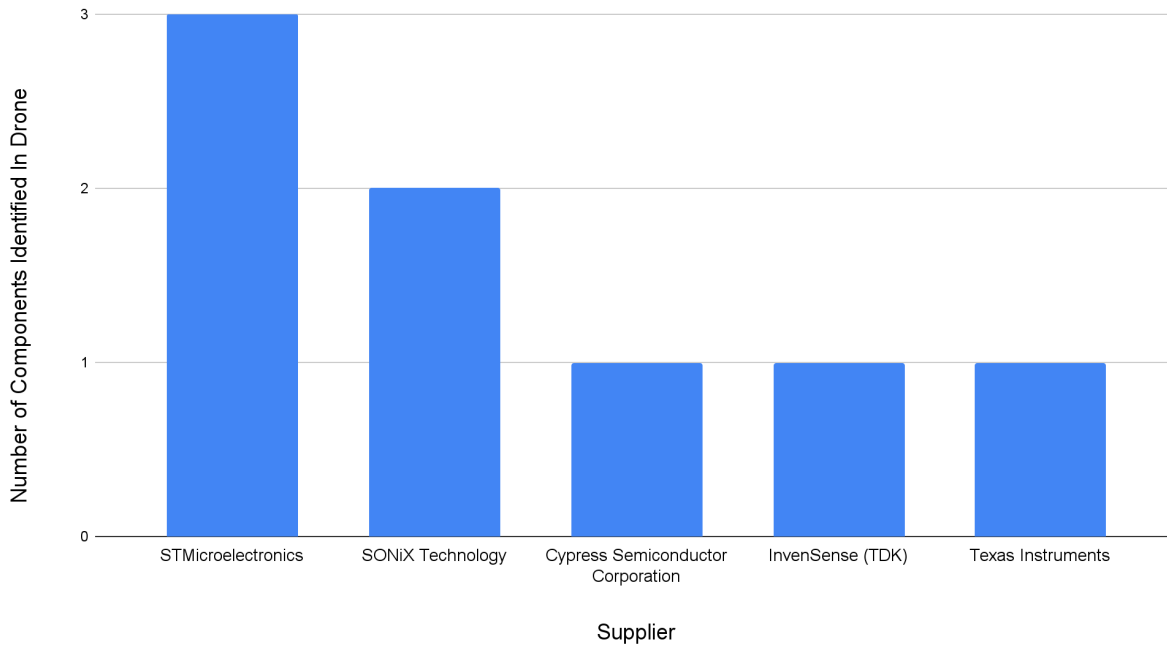
**Figure 6.** The top image shows deconstructed Parody drones recovered by Ukraine, showing the wing not attached and the Luneburg lens placed inside the drone.<sup>25</sup> The bottom image provides another angle of the internal components.<sup>26</sup>

<sup>25</sup> “The russian “Parodies” drones fell in Moldova contain Western-made components,” Defense Intelligence of Ukraine, November 11, 2024, <https://gur.gov.ua/en/content/parodii-z-rf-vpaly-u-moldovi-z-choho-skladaiutsia-falsh-drony-i-aki-ahresor-masovo-zastosovuie-u-povitrianykh-atakakh>.

<sup>26</sup> @war\_home, October 18, 2024, [https://t.me/war\\_home/2794](https://t.me/war_home/2794).



**Frequency Distribution of Western Suppliers of Components Identified in the Parody Drone**



**Figure 7.** A frequency distribution of the Western suppliers of components identified in the Parody drone.

## Conclusion

Russia is launching near daily barrages containing dozens of drones and missiles on Ukraine’s infrastructures and military installations. The development of decoy drones poses a complicated challenge for Ukrainian defenders. The mass production of decoy drones has proven effective in increasing the number of airborne systems being launched at Ukrainian territory and electrical infrastructure. Ukraine now needs to weigh deciding which drones to target, how to assess if the drone represents a true threat, and how to conserve ammunition for the airborne weapons that take priority. More Western defense aid in the form of anti-aircraft artillery ammunition, interceptor missiles, advanced state-of-the-art electronic warfare systems, UAV detection and radar systems, and hunter-killer-interceptor drones are urgently needed to shore up Ukrainian defenses. Training on advanced Western systems and tactics will also help enhance Ukrainian defenders' ability to use Western equipment more effectively.

As with many of the drone systems analyzed by the Institute, the Gerbera and the Parody follow a similar trend of significant dependence on foreign components. Russia is unable to domestically produce the electronic components it requires. The presence of Chinese origin products in these decoy drones continues to highlight the role that China is playing in providing material support, enabling Russia to develop and construct its weapons of war. It is unclear how Russia acquired the Western goods found in these decoy drones, however, previous

investigations undertaken by the Institute show that China has been a key supplier of restricted Tier 1 Western commodities found on the Common High Priority List.<sup>27</sup>

While the use of cheap materials, like plywood and foam, allows Russia to mass produce decoys in large numbers, this also indicates that Russia is conserving the best materials, like carbon fiber and other expensive lightweight composite materials, for the more important weapon systems, such as ballistic missiles and kamikaze drones.

These two drones highlight, once again, that Western companies need to do more to reduce the supply and availability of key Western components from flowing into Russia via China or any other trade route, including through countries that have close trade ties with Russia, such as India, Kazakhstan, Kyrgyzstan, Turkey, and the United Arab Emirates, and others.<sup>28 29</sup>

Without dramatic action by Western companies to halt the flow of the high priority goods to China and China strictly enforcing its domestic and international export control laws, Russia will continue to have access to the commodities it requires.

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<sup>27</sup> Spencer Faragasso, "Chinese Export of Restricted High Priority Battlefield Items to Russia," *Institute for Science and International Security*, September 23, 2024, <https://isis-online.org/isis-reports/detail/chinese-export-of-restricted-high-priority-battlefield-items-to-russia/>.

<sup>28</sup> David Albright and Spencer Faragasso, "Action from Semiconductor Companies is Long Overdue," *Institute for Science and International Security*, September 23, 2024, <https://isis-online.org/isis-reports/detail/action-from-semiconductor-companies-is-long-overdue/>.

<sup>29</sup> "New Measures Targeting Third-Country Enablers Supporting Russia's Military-Industrial Base," United States Department of State, October 30, 2024, <https://www.state.gov/new-measures-targeting-third-country-enablers-supporting-russias-military-industrial-base/>.

## Annex

**Table 1. A complete list of all the parts and sub-components identified by Ukraine in the Gerbera UAV**

Drone	Part in Drone	Sub-Component	Component Number	Producer	Country of Origin
Gerbera	Modem Mesh Network XK-F358	Complex Programmable Logic Device (CPLD)	ALTERA EPM240 M10015N B2325 S330MJ02	Altera Corporation	United States
Gerbera	Modem Mesh Network XK-F358	CMOS Hexagonal Inverter	CM069UB 23K^G4 C6GF	Texas Instruments	United States
Gerbera	Modem Mesh Network XK-F358	Power MOS transistor	0904NSI HAB917	Infineon Technologies	Germany
Gerbera	Modem Mesh Network XK-F358	Power MOS transistor	0902NS HAC152	Infineon Technologies	Germany
Gerbera	Modem Mesh Network XK-F358	Transistor	AMPLEON BLP15MSS70 0450 02408	Ampleon	Netherlands
Gerbera	Modem Mesh Network XK-F358	Radiofrequency circulator	M: UIYDC1919A 1300T1500 N: NB24856	UIY Inc.	China
Gerbera	Modem Mesh Network XK-F358	Programmable System on a Chip (SoC)	XILINX ZYNQ XC7Z020 CLG400ABX2225 D673	Xilinx Inc.	United States
Gerbera	Modem Mesh Network XK-F358	Ethernet controller	RTL8201F L51F731 GL21B	Realtek	Taiwan
Gerbera	Modem Mesh Network XK-F358	Magnetic module	H0013NL 2401-H CHINA	Pulse Electronics Corporation	United States
Gerbera	Modem Mesh Network XK-	NAND Flash memory	1930, 1-7, 29G08ABADA	Micron Technology	United States

	F358				
Gerbera	Controlled Radial Pattern Antenna (CRPA)	RF Agile transceiver	AD9361BBCZ #2233 5933765 1 KOREA	Analog Devices	United States
Gerbera	Controlled Radial Pattern Antenna (CRPA)	Microcontroller	MIMXRT1052 CVL5B 1N04V CTBZ2411H	NXP Semiconductors	Netherlands
Gerbera	Controlled Radial Pattern Antenna (CRPA)	Linear voltage regulator	1755 ADJ #189 31008	Analog Devices	United States
Gerbera	Controlled Radial Pattern Antenna (CRPA)	Flash memory	IS25LP128 FBLE 1822 P1K393L4	Integrated Silicon Solution	United States
Gerbera	Controlled Radial Pattern Antenna (CRPA)	Synchronous buck converter	1AAVY6U LM2 12 15 AMH - 1	National Semiconductor/ Texas Instruments	United States
Gerbera	Controlled Radial Pattern Antenna (CRPA)	DC/DC power supply module with built-in inductor	MPS 2312 MPM3550E PA837128B	Monolithic Power Systems	United States
Gerbera	Controlled Radial Pattern Antenna (CRPA)	8-bit bidirectional voltage level converter	YE08 32K G4 AP77	Texas Instruments	United States
Gerbera	Controlled Radial Pattern Antenna (CRPA)	LTC4367 Undervoltage and Reverse Power Protection Controller	LTGTD e3	Linear Technology Corporation	United States
Gerbera	Engine	Two Stroke 60CC Internal Combustion Engine	DLE60	Mile Hao Xiang Technology	China
Gerbera	Engine	Two Stroke 70CC Internal Combustion	Stinger 70CC	RCGF STINGER CO., LIMITED	China

		Engine			
Gerbera	Visual Identification Camera	Camera with 3-axis gimbal	KHY10S90 80100424261010	Topotek	China
Gerbera	Universal flight controller	DC/DC converter	XLSEMI XL6009E1 932WR	XLSEMI	China
Gerbera	Universal flight controller	DC/DC converter	M34063 (MC34063) TI46M AFV12	Texas Instruments	United States
Gerbera	Universal flight controller	Voltage regulator	BB11174 3BZ3Y7H	Texas Instruments	United States
Gerbera	Universal flight controller	Video signal splitter	3A35 LM 1881M	National Semiconductor/ Texas Instruments	United States
Gerbera	Universal flight controller	EEPROM memory	ATMLH403 640M TH 2403GK5	ATMEL Corporation	United States
Gerbera	Universal flight controller	Universal GNSS module	NEO-M8N-0-10 89460525565 2336 1300 20	U-blox	Switzerland
Gerbera	Universal flight controller	Microcontroller	STM32F407VGT 6 99SY4-VQ6 MYS 99 343	STMicroelectronics	Switzerland
Gerbera	Universal flight controller	Pressure sensor	MPXV5010DP KUS414c	NXP Semiconductors	Netherlands

**Table 2. A complete list of all the parts and sub-components identified by Ukraine in the Parody UAV<sup>30</sup>**

Drone	Part in Drone	Sub-Component	Component Number	Producer	Country of Origin
Parody	Engine	Two Stroke 55CC Internal Combustion Engine	DLE55RA	Mile Hao Xiang Technology	China
Parody	Flight controller and transceiver module	Microcontroller	8F570212AT 37CNWB0D	SONiX Technology	Taiwan
Parody	Flight controller and transceiver module	Transistor	2405 YJD90N06A	Yangzhou Yangjie Electronic Technology Co., Ltd.	China
Parody	Flight controller and transceiver module	Suppressor (protective diode)	SMAJ12A-TR DUK GP238	STMicroelectronics	Switzerland
Parody	Flight controller and transceiver module	Wireless transceiver	E62 433T30D SN S3201766S01 754	EBYTE	China
Parody	Flight controller and transceiver module	Comparator	LM393 28M A658G4	Texas Instruments	United States
Parody	Flight controller and transceiver module	Microcontroller	32F805J 2248TWCO	SONiX Technology	Taiwan
Parody	Flight controller and transceiver module	IMU (Inertial Measurement Module)	INVENSENSE MPU-6000 C12M69LA1 EL 2340 E	InvenSense (TDK)	United States
Parody	Flight controller and transceiver module	Ferroelectric random access memory	FM25V02A-G C 634195 CYP2249	Cypress Semiconductor Corporation	United States

<sup>30</sup> "Components in the aggressor's weapon: UAV Parody," War Sanctions Ukraine Government, December 17, 2024, [https://war-sanctions.gur.gov.ua/components?f%5Bcountry\\_id%5D=&f%5Bmanufacturer\\_id%5D=&f%5Btitle\\_uk%5D=wgroup-328&i%5Bmarking%5D=&f%5Bsearch%5D=.](https://war-sanctions.gur.gov.ua/components?f%5Bcountry_id%5D=&f%5Bmanufacturer_id%5D=&f%5Btitle_uk%5D=wgroup-328&i%5Bmarking%5D=&f%5Bsearch%5D=)

Parody	Flight controller and transceiver module	Microcontroller	32F100 C8T68 9913D 0193 MYS 99 202	STMicroelectronics	Switzerland
Parody	Flight controller and transceiver module	Microcontroller	STM32F427VI T 99SLW VQ 4 MYS 99,342	STMicroelectronics	Switzerland
Parody	Flight controller and transceiver module	GPS GLONASS antenna	1596A-Q	Jiashan Jinchang Electron (Zhejiang JC Antenna Co., Ltd)	China