AFTER THE CALIPHATE

ISLAMIC STATE WEAPONS IN HIGH-PROFILE OPERATIONS IN NORTH-EAST SYRIA

January 2024

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Front cover image: Assault rifles lined up for documentation by CAR investigators in Hasakeh, north-east Syria, in March 2022.

Inside cover image: A welcome sign in Deir-Ez-Zor, north-east Syria, 2023.

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ABBREVIATIONS

CAR	Conflict Armament Research
EID	Établissement Industriel de la Défense
IED	Improvised explosive device
IS	Islamic State
PBIED	Person-borne improvised explosive device
PIR	Passive infrared
RCIED	Radio-controlled improvised explosive device
SDF	Syrian Democratic Forces
SNA	Syrian National Army
STM	STMicroelectronics
VBIED	Vehicle-borne improvised explosive device
VOIED	Victim-operated improvised explosive device
YPJ	Yekîneyên Parastina Jin

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The weapons and ammunition data featured in this report has been published in CAR's iTrace® database.

Visit syria-itrace.hub.arcgis.com to explore the data further and to access interactive case studies from this report.

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KEY FINDINGS

COMMONALITIES AND CENTRALISED STOCKPILES

- On three occasions in 2021 and 2022, Islamic State (IS) cells in north-east Syria attempted to carry out major, complex attacks on detention centres housing IS prisoners and suspected affiliates. Key similarities across the materiel seized from these cells strongly suggest that they were closely linked and supported by a centralised distribution network that equips top-tier cells for specific, high-profile operations.

- The documented materiel recovered following these three IS operations had been carefully managed and compiled by each cell. The recovered weapons were generally well-conditioned, with many of the assault rifles greased and re-packaged in plastic film, likely to prevent corrosion during long-term underground storage. The majority of the rockets, hand grenades, and some of the small-calibre ammunition units were still in their original packaging.

- Evidence collected and analysed by Conflict Armament Research (CAR) suggests that IS forces' capacity to acquire materiel has been degraded since their loss of territorial control around 2019. CAR investigators documented 271 weapons and more than 13,000 units of ammunition that local security forces recovered in three seizures following these IS operations, as well as IED-related material. The weapons' age and general profile indicate that even top-tier IS cells in north-east Syria have not developed new supply chains through which to access advanced weaponry. Rather, cells remain proficient at maximising the efficacy of the materiel they hold by drawing on stockpiles and caches dating back to the height of their 'caliphate' in 2014-15; exploiting new, local sources of materiel; and continuing to produce some of their own lethal equipment.

RELIANCE ON 'CALIPHATE'-ERA STOCKS

- CAR documented 18 Type 68 assault rifles in the three seizures, all manufactured in the Democratic People's Republic of Korea (North Korea). Given that these rifles are rare in CAR's global data set, their significant presence in these seizures is particularly striking. Prior to being acquired by IS forces, these rifles or their components were probably transferred from North Korea to the Syrian government.

- Local security forces recovered large quantities of detonating cord, safety fuze, and detonators that were manufactured in India between April 2009 and March 2015. CAR first investigated the manufacturers in 2016, after documenting identical material in Iraq and Syria. At that time, CAR found that the items had been legally exported to registered importers in Lebanon and Türkiye. CAR's research revealed no evidence that IS forces in north-east Syria obtained new supplies of detonating cord or detonators manufactured after mid-2015, indicating a continued reliance on these legacy stockpiles.

- CAR identified 20 Chinese Type 56-1 assault rifles with unique obliterations on the forward trunnion and rear sight block. These rifles are part of a series that CAR investigators have found to be associated with a wave of high-profile terrorist attacks in West Africa in 2015 and 2016, claimed by al-Mourabitoun and al-Qaeda in the Islamic Maghreb. All of the obliterations appear to have been conducted in the same way. The similar removal methods and the related suspected serial numbers suggest that IS forces in north-east Syria share a source of supply with militants in West Africa.

- As a result of extensive cooperation on tracing investigations with several European Union Member States—specifically Bulgaria and Romania—CAR traced 49 weapons and 293 ammunition units recovered from the IS cells. The investigations identified 19 legal transfers of weapons and ammunition to Saudi Arabia between 2013 and 2016, and 14 legal transfers to the United States between 2002 and 2016. Both countries were part of international efforts to support Syrian armed opposition groups in the early years of the civil war in the country.

- IS forces' ongoing reliance on materiel that they seized from Syrian armed opposition or Iraqi security forces is a reminder of the longevity of equipment that foreign actors supplied to various forces in the region.

RECENT ACQUISITION EFFORTS

- In documenting the three seizures, CAR identified nine diverse weapons that share a distinctive post-production marking. This mark indicates that the weapons shared a custodian, the Syrian National Army (SNA). CAR's analysis links these nine weapons to six different SNA brigades. The SNA was formed in late 2017 and early 2018, at a time when IS forces had lost 95 per cent of the territory it had previously held. This suggests that IS forces have sourced weapons from other armed groups since the collapse of the 'caliphate', although CAR has not been able to establish the diversion mechanisms through which this has taken place.

- CAR investigators documented 248 40 mm rockets and expelling charges that were manufactured in Bulgaria in 2018, long after IS forces lost control of the locations where those items were recovered. The prevalence of four recurrent lot numbers among these Bulgarian rockets and expelling charges was the most significant indicator that a portion of the materiel recovered in each of the three seizures share a common and recent source of supply. Türkiye was the only recipient of materiel representing each of the lot numbers that CAR investigators documented in the *inghimasi* seizures. Continued Turkish support for the SNA—combined with the above-mentioned evidence that IS forces sourced weapons previously held by the SNA—suggests that Türkiye may have purchased the rockets to equip the SNA, which subsequently lost them from its custody.

LOCAL PRODUCTION

- IS forces have maintained centralised networks that produce and distribute improvised explosive devices (IEDs). Local security forces seized more than 500 electronic IED switches in one of the three seizures. Analysis of these shows that a single IS cell had successfully stockpiled a broad range of IED switches of varying sophistication. In some cases, CAR documented electronic components with the identical make, model, and lot number up to 350 km and more than a year apart—testimony of the reach of the distribution network supporting this cell. Forensic handwriting analysis identified two individuals as responsible for the labelling of electronic IED switches.

- Local security forces captured nearly 500 fabricated sound suppressors. Four models were common across two seizures; they were stamped with individual serial numbers following a consistent pattern and denoting a particular calibre. CAR assesses that these suppressors were probably manufactured locally and packaged on a semi-industrial scale.

METHODOLOGY

CAR field investigation teams document illicit weapons, ammunition, and related materiel in conflict-affected locations and trace their supply sources.

The teams inspect weapons in a variety of situations—whether recovered by state security forces, surrendered at the cessation of hostilities, cached, or held by insurgent forces. They document all items photographically, date and geo-reference the documentation, and incorporate contextual interview data gathered from the forces in control of the items at the time of documentation.

CAR occasionally uses information and photographs from social media as background information but does not base its investigations on them, since the provenance of such data is often difficult to verify. Moreover, open-source information does not always provide the detailed physical elements—notably external and internal markings—required to trace weapons and ammunition.

CAR traces only a portion of the items it documents in the field. This traced materiel is usually of particular significance to CAR investigations. If numerous individual items were to be traced, an excessive burden would need to be placed on the national governments and manufacturing companies concerned. Furthermore, some of the documented items are untraceable. For example, most loose small-calibre ammunition lacks the lot numbers required to identify it in production, sales, and export records.

Similarly, records pertaining to the production, sale, and export of many older weapons are no longer available. CAR supplements formal weapon tracing by analysing physical evidence gathered from the weapons themselves and from related materiel; obtaining government, commercial, transport, and other documents; and interviewing individuals with knowledge or experience of the equipment transfers under scrutiny.

CAR retains all documents, interview notes, emails, recordings, photographs, and other data obtained from third parties in a secure, encrypted format. Wherever relevant, CAR publications refer to these items as being 'on file'. To protect its sources, CAR refrains from publishing all details about them and the circumstances under which it acquired certain items. CAR's sources provide all such items willingly and with full knowledge of their use by CAR. CAR does not undertake undercover work or use other clandestine investigation methods. For privacy reasons, CAR publications do not refer to private individuals by name, except in the case of well-known public officials.

CAR has contacted all governments and companies substantively referenced in this report. Unless specified, no reference to the names of countries of manufacture, manufacturing companies, intermediary parties, distributors, or intended end users implies illegality or wrongdoing on the part of the named entity. CAR would like to acknowledge the cooperation of the governments, companies, and individuals whose responses to CAR's trace requests and provision of other information have been critical in its ongoing investigations.

CAR'S PARTNERS IN NORTH-EAST SYRIA

In north-east Syria, CAR works at the invitation of the Autonomous Administration of North and East Syria, the de facto authority over large parts of Aleppo, Deir-ez-Zor, Hasakeh, and Raqqa governorates. The authority's military and security forces—the Syrian Democratic Forces and Internal Security Forces—are responsible for defence and security in the region. CAR would like to thank representatives of these security forces for providing authorisation for CAR to access the captured materiel described in this report. CAR's field investigations would not be possible without the support its partners in north-east Syria. CAR worked in north-east Syria from 2014 to 2015 and resumed operations in 2020.

INTRODUCTION

In 2014 IS fighters swept through Iraq and Syria and declared a 'caliphate' from the Grand Mosque in Mosul (Figure 1). At the height of their power, IS forces were in possession of advanced weapon systems, could manufacture improvised weapons and explosive devices on a large and sophisticated scale, and were able to tap into regional and international markets to acquire commercial products for the development of explosives.

Following a string of military defeats at the hands of a coalition of international and local security forces, and the collapse of the 'caliphate' in March 2019, IS forces learned to operate in a more clandestine manner. Coalition forces assess that current IS capabilities are severely degraded: regular leadership losses, a lack of funds, and limited recruitment capacity prevent IS cells from launching anything but small and opportunistic attacks (DoD IG, 2023)[1]. In north-east Syria, however, small cells continue to mobilize, frustrating local security forces and their allies.

On three occasions in 2021 and 2022, these cells attempted to carry out major, complex attacks on detention centres housing IS prisoners and suspected affiliates in Syria.[2] All were typical *inghimasi* operations (from the Arabic word inghamasa, 'to plunge'). Inghimas are lightly armed operatives—equipped with person-borne improvised explosive devices (PBIEDs)—whose role is to break through battle lines or fortifications and to cause significant damage. *Inghimasi* fighters differ from most 'suicide bombers': although they expect to be killed in action, they may survive and return to their base (Rowley, 2016). Such IS attacks were remarkably successful during the height of the 'caliphate' in both Iraq and Syria, while IS affiliates have used this tactic in other locations, including in Europe.

Working on the ground in north-east Syria, CAR field investigators have documented weapons, ammunition, and other relevant materiel that local security forces recovered from each of the three IS *inghimasi* operations (see Map 1):

Figure 1

'Caliphate State' engraved on the lower handguard of an AK-pattern rifle, recovered by local security forces in the aftermath of the Sina'a prison attack in January 2022.

Documented by CAR in Hasakeh district, Hasakeh governorate, in March 2022.

- **Seizure 1: Abu Khashab**
  In November 2021, coalition and local security forces carried out an operation against an IS cell in Abu Khashab that was planning a prison break in Hasakeh city (Kittleson, 2021).

- **Seizure 2: Sina'a prison**
  In January 2022, IS forces launched a major attack on Sina'a prison in Hasakeh city, sparking a ten-day battle that left hundreds of people dead (Arraf and Khaleel, 2022). Large-scale search operations conducted in and around Hasekeh following this attack recovered a significant amount of materiel from caches throughout the area.

- **Seizure 3: Qayrawan**
  In September 2022, local security forces intercepted an IS cell in Qayrawan planning a complex attack on Al-Hol camp (Szuba, 2022).

In total, CAR documented 271 weapons and more than 13,000 units of ammunition in these three seizures, as well as IED-related materials (see Annex 1 for a full list of types and calibres). CAR first worked in north-east Syria from 2014 to 2015, documenting materiel recovered from IS forces during the height of the so-called caliphate. CAR resumed operations in the region in 2020 and has since conducted ten further field missions in north-east Syria, totalling more than 100 days of field deployment. Since 2020, CAR investigators have documented more than 1,500 weapons and 28,000 rounds of ammunition recovered from armed actors in the region.[3]

CAR's decade-long engagement in Iraq and Syria has produced a substantial data set of weapons and ammunition held by IS forces, both during and since the height of their territorial control in both countries. As a result, CAR investigators are able to assess the three high-profile operations of 2021–22 against the baseline data set collected since 2020, as well as against historical data collected by CAR between 2014 and 2017 in Iraq and Syria.[4]

This report profiles each of the three *inghimasi* operations and the associated equipment that was recovered by local security forces. It then identifies prominent similarities among the items used by militants across all three operations. These commonalities suggest that IS cells in the region share a node or centralised structure.

This report demonstrates that IS forces in north-east Syria continue to maintain the capability to plan complex attacks through a centralised distribution network that equips top-tier cells for specific operations. It also indicates that IS cells in the region are still organised to a high degree and that they coordinate the acquisition, access, management, and transport of their lethal equipment. The materiel recovered from these top-tier cells suggests that the overall quality of weapons that IS forces can access has dropped since the height of their territorial control. Nevertheless, the cells remain proficient at maximising the efficacy of the materiel they hold, namely by:

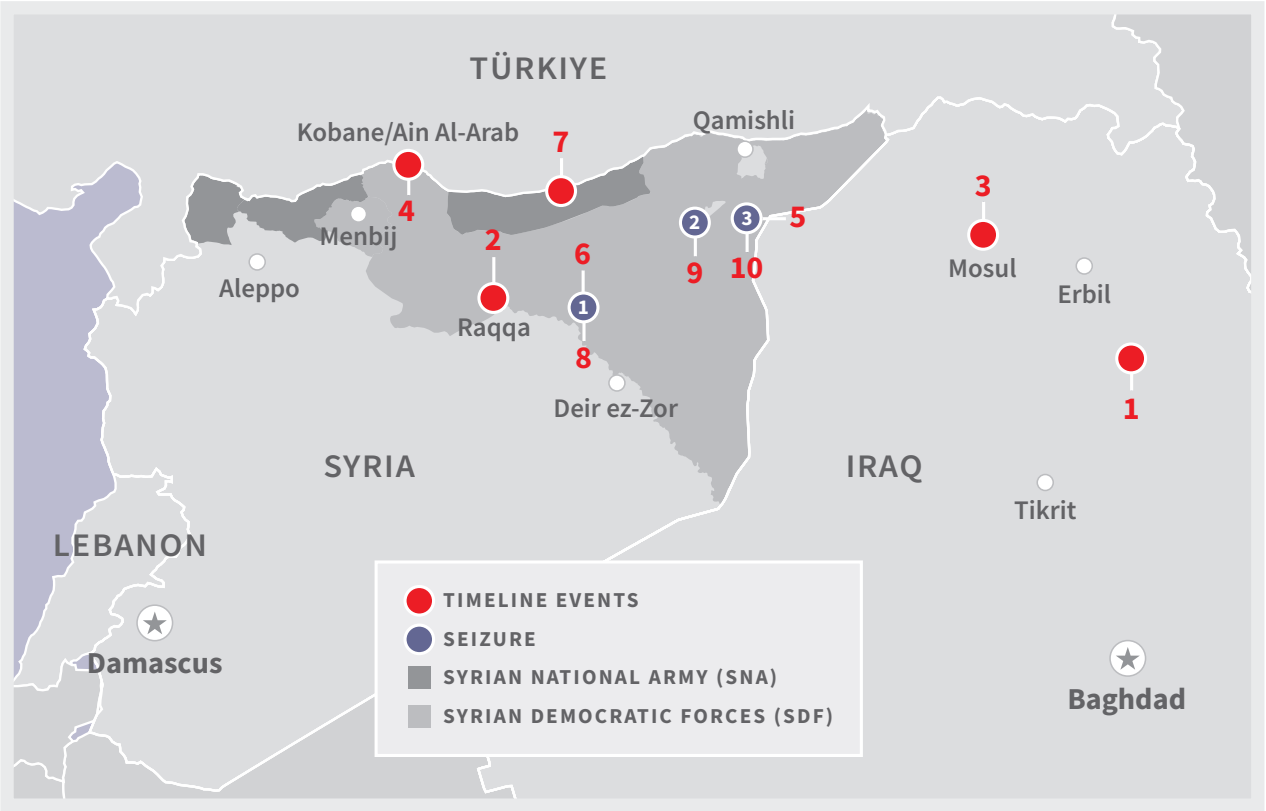
- drawing on existing stockpiles and caches;
- increasing their reliance on new, local acquisitions; and
- producing some of their own lethal materiel.

Analysis of the materiel used by IS forces in north-east Syria for these high-profile *inghimasi* operations provides critical insights into the group's current strategies for weapon acquisition, management, and selection. In addition, the documentation of equipment can help analysts recognise the current hallmarks of IS *inghimasi* operatives, as compared to lower-tier local cells. Lastly, the profiles of these attacks are a potent reminder of the longevity of equipment supplied to various forces in the region, as the ongoing circulation of weapons, ammunition, and explosives stockpiled at the height of the 'caliphate' continues to contribute to instability and insecurity in north-east Syria.

THIS REPORT DEMONSTRATES THAT IS FORCES IN NORTH-EAST SYRIA CONTINUE TO MAINTAIN THE CAPABILITY TO PLAN COMPLEX ATTACKS THROUGH A CENTRALISED DISTRIBUTION NETWORK THAT EQUIPS TOP-TIER CELLS FOR SPECIFIC OPERATIONS.

Map 1

Timeline of key events



Year	Month	Description (Timeline events)
2011	March	Repression of protestors demonstrating against the Syrian government leads to conflict in Syria.
	May	The European Union imposes a full arms embargo on Syria. The embargo is lifted in May 2013, with the exception of equipment that might be used for internal repression (EU Council Decision 2013/255/CFSP).
2012-13	July-July	IS predecessor Al-Qaeda in Iraq (AQI) launches the 'Breaking the Walls' campaign, a series of complex attacks on Iraqi prisons in several cities, including Kirkuk, to free some of its members. (1)
2013		The US and allied governments begin supplying weaponry and training to armed Syrian opposition groups of the Free Syrian Army fighting President Bashar al-Assad of Syria as part of Operation Timber Sycamore (Miller, 2013).
2014	January	IS forces establish control over the city of Raqqa. (2)
	June	IS forces launch an offensive to capture Mosul and Tikrit in Iraq and seize vast swathes of central and eastern Syria. IS forces announce the establishment of a 'caliphate'. (3)
	October	With the support of coalition airstrikes, the People's Defense Units (YPG) repel IS advances on Kobane (Ain al-Arab), eastern Aleppo governorate. (4)
2015	February	The YPG establishes control over Qayrawan village (eastern Hasakeh governorate) as part of the Tal Hamis offensive against IS forces. (5)

Year	Month	Description (Timeline events)
2017	February	The Syrian Democratic Forces (SDF) establish control over Abu Khashab area (northern Deir-ez-Zor governorate) as part of the Raqqa campaign against IS forces. (6)
	December	Battlefield defeats cost IS forces 95 per cent of their territory, including Mosul in Iraq and the nominal capital, Raqqa, in Syria.
	December	Numerous Free Syrian Army units unify under the Syrian National Army umbrella.
2019	March	During the final battle of Baghouz (southern Deir-ez-Zor governorate), the SDF defeats IS forces territorially. The majority of male IS suspects are sent to Sina'a prison in Hasakeh, while women and minors are sent to Al-Hol camp (eastern Hasakeh governorate), as well as other detention facilities.
	October	Türkiye launches Operation Peace Spring against the SDF and takes control of a 30-km border strip between Ras al-Ain and Tal Abyad (western Hasakeh and northern Raqqa governorates). (7)
2021	June	Local security forces are first alerted to substantial IS efforts to smuggle weapons and explosives to be used in an attack on Sina'a prison in Hasakeh city.
	8 November	Supported by coalition forces, local security forces conduct a raid on an Abu Khashab IS cell that is planning an attack on Sina'a prison (Seizure 1). (8)
	22 December	Local security forces capture the leader of the Abu Khashab cell, who had avoided arrest a month prior.
2022	20-30 January	IS forces launch a complex attack on Sina'a prison, resulting in a ten-day battle in Hasakeh city (Seizure 2). (9)
	20-21 September	Local security forces intercept an IS team that is reportedly heading to Al-Hol camp. The next day, they recover a large weapon cache in nearby Qayrawan village (Seizure 3). (10)

▼ **Sound moderators laid on the ground prior to documentation by CAR field investigators in Hasakeh, north-east Syria, March 2022.**

SECTION 1

SEIZURE PROFILES

SEIZURE PROFILES

SEIZURE 1: ABU KHASHAB — 8 NOVEMBER 2021

Organisation and planning

On 8 November 2021, a joint operation conducted by local security and coalition forces raided a farmstead compound belonging to an IS cell in the Abu Khashab area in northern Deir-ez-Zor governorate. During the raid, one IS member was killed and another four were captured.

The cell had reportedly been planning to free around 4,000 IS suspects held in Sina'a prison. To do so, its members had prepared two vehicle-borne improvised explosive devices (VBIEDs) with the intention of breaching the outer perimeter. Coalition forces destroyed one of these vehicles at the time of the raid.[5] They seized the second—and arrested the suspected cell leader—a month later (SDF Press Center, 2021). The cell had planned to equip a dozen fighters with PBIEDs to stage a ground assault (see Figure 2). The cell apparently intended to distribute weapons, ammunition, and other equipment to the detainees inside the prison.[6]

Equipment

Local forces recovered a large weapon cache during the seizure. Based on the captured equipment, the Abu Khashab cell had compiled enough weapons and ammunition to arm three to four light infantry sections totalling 40 individuals to conduct a platoon-level attack.[7] From the quantity and type of materiel, it is likely that 37 individual IS members could each have been equipped with:

- 1 loaded 7.62 × 39 mm AK-pattern assault rifle
- 4 loaded 30-round 7.62 × 39 mm magazines
- 1–2 grenades, and
- 1 hydration pack.

Another three cell members would each have operated the following support weapons:

- 2 machine guns, each with 10 belts of 250 7.62 × 54 R mm rounds, and
- 1 40 mm shoulder-fired rocket launcher, with more than 40 available rockets.

CAR documented all the captured materiel from the Abu Khashab seizure while it was in the custody of local security forces, on 2 December 2021 in Qamishli. Annex 1 provides a detailed breakdown of the types and calibres documented in the Abu Khasab raid, as well as the two other seizures covered in this report.

EQUIPMENT RECOVERED IN ABU KHASHAB

- 37 AK-pattern rifles
- 194 magazines
- 2 machine guns
- 1 rocket launcher
- 42 rockets
- 41 rocket-expelling charges[8]
- 62 hand grenades
- 8,135 rounds of small-calibre ammunition[9]
- 11 explosive vests
- 23 hydration packs.

Figure 2

PBIEDs recovered by local security forces from an IS cell in Abu Khashab in November 2021.

Documented by CAR in Qamishli district, Hasakeh governorate, in December 2021.

SEIZURE 2: SINA'A PRISON

20–30 JANUARY 2022

Organisation and planning

On 20 January 2022, IS forces began a large-scale attack on Sina'a prison in Hasakeh city by detonating at least one truck rigged as a VBIED against its main gate. IS assault teams equipped with PBIEDs simultaneously attacked the outside perimeter from different directions. At the same time, detainees rioted inside, successfully fighting against the security forces stationed within and establishing control over the entire detention facility and adjacent buildings.

In the subsequent fighting, many prisoners escaped to the southern neighbourhoods of Hasakeh city. It took ten days for security forces, supported by coalition airstrikes, to re-establish full control over the area. Large-scale search operations in and around Hasakeh city resulted in the seizure of a significant number of weapons and explosives, recovered not only from the IS assault teams, but also from various caches throughout the area.

The Battle of Hasakeh was the largest IS operation since the fall of the 'caliphate' in early 2019 (Arraf and Khaleel, 2022). More than 120 members of local security forces and some 350 IS members were killed during the intense clashes (Hassan et al., 2023).

Equipment

CAR documented a large amount of captured materiel over a three-day period in March 2022 in Hasakeh city, while it was in the custody of local security forces (see Figure 3). The materiel had been recovered over multiple days by various units in an active combat zone.

It was therefore not possible for investigators to differentiate between items belonging to the initial IS assault teams, those that were intended to be distributed to detainees, and items that were seized during follow-up search operations in and around Hasakeh city.

EQUIPMENT RECOVERED IN THE AFTERMATH OF THE SINA'A PRISON COMPLEX ATTACK

- 124 AK-pattern rifles
- 1 M16-pattern assault rifle
- 659 magazines[10]
- 13 machine guns
- 2 heavy machine guns with 3 additional barrels
- 7 anti-materiel rifles
- 5 designated marksmen rifles
- 5 bolt-action rifles
- 10 shotguns
- 7 rocket launchers
- 74 rockets
- 77 rocket-expelling charges
- 95 hand grenades and fuzes
- 7,850 rounds of small-calibre ammunition[11]
- 426 sound suppressors
- 45 spools of detonating cord
- 2 spools of safety fuze
- 2,000 detonators.

Figure 3

Plastic-wrapped weapons, recovered by local security forces in the aftermath of the Sina'a prison break in January 2022.

Documented by CAR in Hasakeh district, Hasakeh governorate, in March 2022.

SEIZURE 3: QAYRAWAN

20–21 SEPTEMBER 2022

Organisation and planning

On 20 September 2022, local security forces intercepted three IS vehicles rigged as VBIEDs near Um Fakik village (eastern Hasakeh governorate), along the Iraqi border. According to local forces, the IS convoy was heading towards Al-Hol camp, which holds more than 50,000 refugees and internally displaced persons, including people suspected of affiliation with IS forces (Szuba, 2022).

During the operation, one VBIED detonated. Security forces successfully captured the second vehicle and rendered it safe, but some IS fighters initially managed to escape with the third VBIED. Following interrogation of arrested individuals from the second vehicle, the third one was captured together with a large cache of weapons, which was buried in nearby Qayrawan village.

Equipment

CAR documented the materiel seized in Qayrawan—including the three vehicles (see Figure 4)—in November 2022 in Al-Hol and Hasakeh, where it was in the custody of local security forces. Some of the materiel was packaged for apparent long-term underground storage, rather than for immediate use (see pages 24–25), and the cache contained a very large quantity of IED-related components, including explosive materiel and switches.

EQUIPMENT RECOVERED IN QAYRAWAN

- 3 vehicles
- 56 AK-pattern rifles
- 1 battle rifle
- 590 magazines
- 192 rockets
- 178 rocket-expelling charges[12]
- 1 disposable rocket launcher
- 16 hand grenades and fuzes
- 12,000 rounds of small-calibre ammunition[13]
- 65 sound suppressors
- 1 spool and 11 bundles of detonating cord
- 6,000 detonators
- 508 IED switches.

Figure 4

Remains of an IS VBIED after it detonated during an operation conducted by local security forces in Um Fakik village in September 2022.

Documented by CAR in Hasakeh district, Hasakeh governorate, in November 2022.

SECTION 2

CENTRALISED DISTRIBUTION STRUCTURE

CENTRALISED DISTRIBUTION STRUCTURE

In north-east Syria, the circumstances of recovery do not typically allow for investigators or security forces to link individual illicit weapons to particular incidents. It is thus relatively rare for CAR investigators to document a complete seizure of all the materiel associated with one specific attack. An opportunity to document all the equipment associated with several high-profile operations planned or carried out by the same actor over a short period of time is even more unusual. It provides rare insight into the current capacity of IS forces to operate a centralised distribution structure supporting attacks on high-value targets.

The three seizures conducted in 2021 and 2022 share several similarities that stand out not only against characteristics that CAR has recorded since 2020 in its broader north-east Syria data set, but also against its historical documentations undertaken in Iraq and Syria between 2014 and 2017. These common features strongly suggest that the attacks were closely linked and that IS cells preparing high-profile attacks in the region were equipped through the same centralised location.

SEIZURE COMMONALITIES

AK-pattern rifles with folding stocks

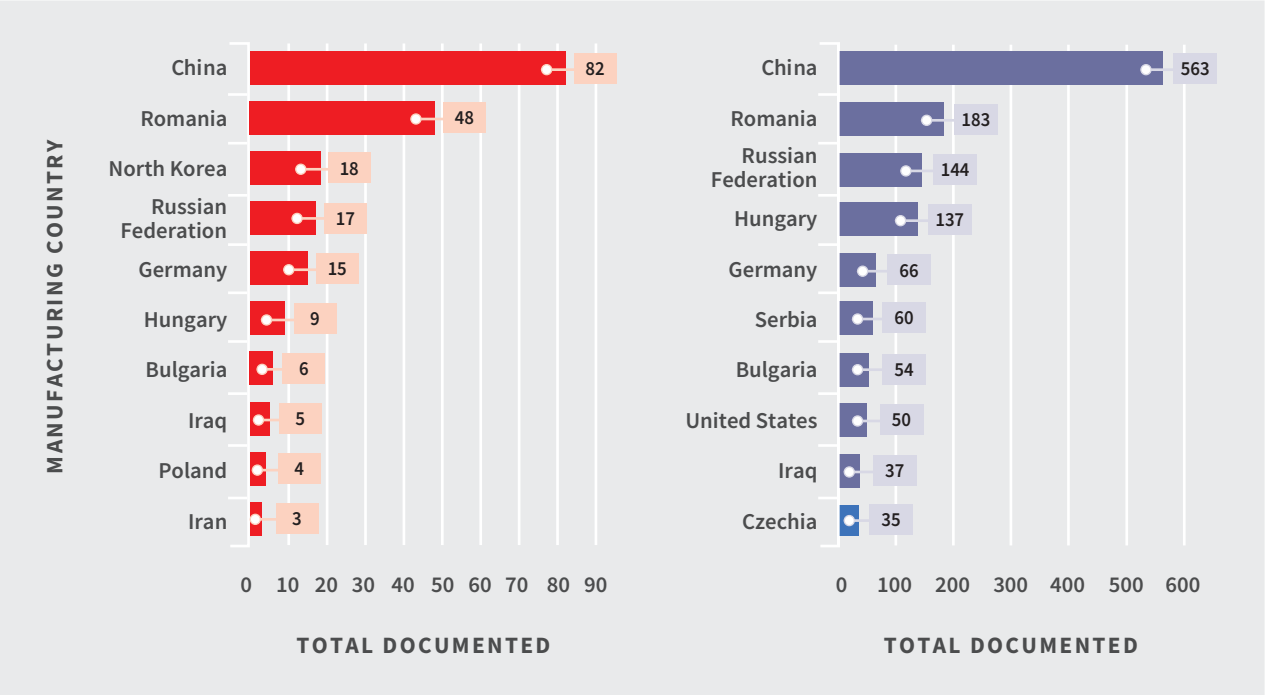
As is typical of recoveries of IS weapons in both Iraq and Syria, all three *inghimasi* seizures included numerous 7.62 × 39 mm AK-pattern assault rifles.[14] These weapons were primarily of Chinese, East German, North Korean, Romanian, and Russian manufacture, with the majority dating from the 1980s, the final decade of the Warsaw Pact. These findings are broadly consistent with CAR's historical data set from Iraq and Syria, which documents a similar range of producers of AK-pattern rifles (see Graph 1). The most notable point of departure—which relates to the comparably large quantity of rifles produced by the Democratic People's Republic of Korea (North Korea) present in the recent seizures—is examined on pages 34–36.

▼ **Machine guns lined up for documentation by CAR field investigators in Hasakeh, north-east Syria, March 2022.**

The majority of the rifles recovered in the three seizures had folding stocks and a few had their stocks removed altogether (see Table 1). Fighters probably preferred these weapons over fixed-stock options, both for concealment while approaching a target, and for fighting in the confines of Sina'a prison in Hasakeh city or the over-crowded Al-Hol camp. CAR has documented this tactic in relation to assaults on other high-value targets, notably in attacks carried out by the Taliban and Islamic State Khorasan Province in Kabul, Afghanistan, in 2019 and 2020 (CAR, 2022a).

Graph 1

Top 10 countries of manufacture* for AK-pattern assault rifles documented in the three *inghimasi* seizures in north-east Syria (left) and in CAR's Iraq and Syria data set from 2014–17 (right)



*Where CAR was able to identify the country of manufacture.

Table 1

Stock configuration of recovered assault rifles from the three seizures in north-east Syria

Seizure	Number of AK-pattern assault rifles	Folding stocks	Removed stocks	Rifles without fixed stocks (%)
Abu Khashab	37	30	7	100%
Sina'a prison*	124	63	9	58%
Qayrawan	56	50	4	96%

*The Sina'a prison seizure included materiel collected from various other raids in the vicinity over the course of the battle, which probably accounts for the lower proportion of rifles without fixed stocks.

Recently manufactured ammunition

Most of the seized ammunition whose date of manufacture CAR investigators could identify was produced recently: over 70 per cent of the units (8,321 of 11,680) were produced between 2010 and 2018. This high proportion stands in stark contrast to the significantly lower share of recent ammunition documented in CAR's north-east Syria baseline data set since 2020. Only 26 per cent of ammunition in that data set—not including the materiel associated with the three *inghimasi* attacks—was manufactured in 2010 or later (1,886 of 7,308 total units), while 45 per cent dates back to the 1980s (3,254 out of 7,308 units).

Recently manufactured ammunition is not unusual in dynamic conflict theatres, in which rates of ammunition consumption by belligerents are typically heightened. With reference to the three *inghimasi* attacks, the high proportion of recently manufactured ammunition is a good indicator that new ammunition supplies continue to move through the region and that top-tier IS cells are able to access them.

Common calibres

Three weapon types—7.62 × 39 mm assault rifles, 7.62 × 54 mm R PKM-pattern machine guns, and 40 mm rocket launchers—accounted for nearly all of the recovered weapons (94 per cent).[15] While these are common calibres in north-east Syria, their high concentration is notable compared to the baseline data for the region (see Box 1). The limited pool of calibre types may be reflective of the fact that ammunition in these calibres is more commonly available.

BOX 1 — **WEAPON AVAILABILITY IN NORTH-EAST SYRIA**

The careful organisation and selection of materiel recovered in the three *inghimasi* seizures provides a distinctive point of contrast to materiel recovered from criminals and other armed actors in the region. In general, local seizures are more likely to include an amalgamation of equipment in a variety of conditions and calibre, often in poor working order.

CAR has documented at least 34 different types of small-calibre ammunition across north-east Syria since 2020, for example, while only four calibres were documented in the three *inghimasi* seizures. Much of the small-calibre ammunition from these seizures was loaded into magazines recovered alongside assault rifles in the associated calibre (Figure 5).

Approximately 30 per cent of the weapons that CAR investigators have documented over the same period are either shotguns or blank-firing pistols, often converted to fire live ammunition. CAR documented ten shotguns in the aftermath of the Sina'a prison attack in January 2022, but these may have been a result of the neighbourhood operations in an around Hasakeh city, as they were absent from either the Abu Khashab or Qayrawan seizures. Handguns were entirely absent from the three seizures. Unregistered shotguns and converted blank-firing pistols are typically used by civilians or criminals rather than top-tier IS cells. The increasing number of blank-firing pistols and shotguns among armed illicit actors could indicate that access to weapons such as AK-pattern assault rifles in the region might be more restricted, due either to a lack of funds or more effective control by local security forces.

Figure 5

Magazines for AK-pattern rifles recovered from Sina'a prison.

Documented by CAR in Hasakeh district, Hasakeh governorate, in March 2022.

Storage and conditioning

The weapons documented in all three seizures were generally in good condition, with many of the assault rifles greased and repackaged in plastic film (see Figures 6 and 7). In the case of the Qayrawan seizure, these protective measures were probably taken to prevent corrosion during long-term underground storage (see Box 2).

Figure 6

A bolt carrier recovered from a Hungarian AK-63F assault rifle, covered in grease to ensure corrosion protection and lubrication.[16]

Documented by CAR in Qamishli district, Hasakeh governorate, in December 2021.

Figure 7

Plastic-wrapped rifles from the Abu Khashab seizure.

Documented by CAR in Qamishli district, Hasakeh governorate, in December 2021.

The majority of the rockets and hand grenades, along with some small-calibre ammunition rounds, were still in their original packaging, suggesting a relatively short chain of custody between manufacture and diversion (see Figures 8 and 9). In addition, some of the expelling charges and rockets of different ages, types, and manufacturers had been repackaged in heavier plastic, most probably to facilitate transportation and long-term storage.[17]

Figure 8

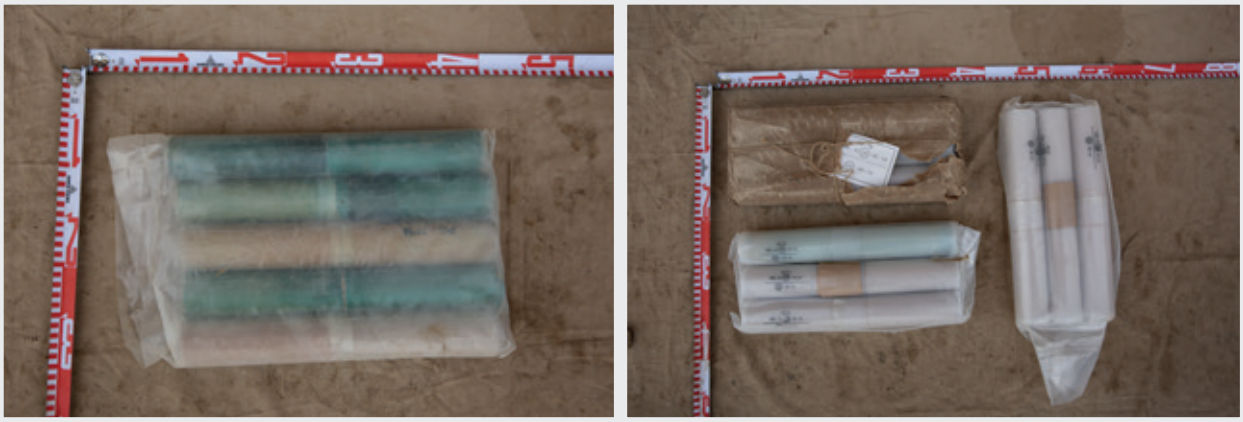
Three vacuum-sealed battle packs of 240 rounds of 7.62 × 54 mm R ammunition manufactured in Azerbaijan, recovered in Qayrawan.[18]

Documented by CAR in Hasakeh district, Hasakeh governorate, in November 2022.

Figure 9

Left: Expelling charges of varying provenance, packaged together in plastic. Right: Bulgarian CP-71 expelling charges in original packaging. Both sets of charges were recovered in Sina'a prison (see endnote 65).

Documented by CAR in Hasakeh district, Hasakeh governorate, in March 2022.



BOX 2 — **STORAGE OF EQUIPMENT**

The three seizures analysed in this report took place at different points in the timelines of their corresponding operations. As a result, CAR's documentation of these seizures helps to shed light on different storage and transfer habits of IS forces in north-east Syria.

Security forces foiled the Abu Khashab operation immediately before it was set to launch, clearly exposing materiel that a specific number of individuals had planned to use in the attack. The materiel from Sina'a prison was recovered in the aftermath of a partially successful IS operation. In Qayrawan, the authorities seized not only weapons and ammunition intended for an attack on Al-Hol camp, but also a large quantity of additional materiel located in plastic barrels buried underground, probably set aside for future operations (see Figure 10).

Figure 10

Stills from a video issued by the Syrian Democratic Forces Press Center showing some of the IED material and ammunition stored by IS fighters in buried barrels, uncovered by local security forces in September 2022 (SDF Press Center, 2022a).

The assault rifles recovered in Qayrawan differ markedly from those captured in the two other seizures in that more than half of them (31 of 56 rifles) had their pistol grips removed to facilitate long-term underground storage in plastic barrels (see Figure 11). In contrast, grips had not been removed from any of the Abu Khashab rifles, which were recovered in advance of an imminent attack, and only 12 of 125 grips (less than 10 per cent) had been removed from the Sina'a prison rifles. As noted, some of the items in the Sina'a prison seizure were recovered in caches in and around Hasakeh City, which could explain some of the missing grips.

BOX 2 — **STORAGE OF EQUIPMENT** (CONTINUED)

The Qayrawan seizure stands out not only because a far greater proportion of its rifles lacked grips, but also because it includes a large number of IED switches and ammunition.

These characteristics could indicate that the Qayrawan cache was part of a larger stockpile set aside for future use, rather than solely intended for the attack on Al-Hol camp.

Figure 11

A Polish KbK-AKMS assault rifle recovered in Qayrawan village in September 2022. The rear stock was folded, and the pistol grip was removed to facilitate long-term storage in plastic barrels buried underground.

Documented by CAR in Hasakeh district, Hasakeh governorate in November 2022.

WEAPON COMMONALITIES

During the documentation of the materiel recovered in the *inghimasi* seizures, CAR investigators noticed three unexpected commonalities among the weapons. These shared characteristics, detailed in Table 2, are particularly striking when compared to the data CAR has been collecting in north-east Syria since 2020 and in relation to diverted weapons around the world. Investigators also observed instances in which weapons recovered in one seizure contained internal components belonging to a weapon found in a different seizure (see Box 3 on pages 27–28).

The first commonality is the presence of 18 Type 68 7.62 × 39 mm assault rifles that were manufactured in the Democratic People's Republic of Korea (North Korea). These rifles are rarely observed in CAR's global operations, which makes their strong presence in all three seizures noteworthy. They make up 12 per cent of the weapons documented in the Abu Khashab seizure, 5 per cent in the Sina'a prison seizure, and 9 per cent of the Qayrawan seizure (see Graph 2). These distinctive weapons account for one in ten of all the assault rifles recovered from the three *inghimasi* attacks;

they are ten times more common in these seizures than across the rest of CAR's assault rifle data set for north-east Syria since 2020. CAR first reported on these Type 68 assault rifles in May 2023 (CAR, 2023b). This report explores these rifles in greater detail on pages 34–36.

Another striking finding is the presence of weapons bearing a distinctive secondary marking in each of the three seizures. The mark, applied across a disparate set of materiel, identifies these weapons as having shared a common custodian—the Syrian National Army (SNA), a coalition of armed opposition groups established in 2017. Weapons bearing this mark made up 10 per cent of weapons documented in the Abu Khashab seizure, 2 per cent of the Sina'a prison seizure, and 4 per cent of the Qayrawan seizure. This mark had not previously been recorded in CAR's documentation of weapons held by IS forces in Iraq and Syria since 2014. CAR first reported on these post-production marks in January 2023 (CAR, 2023a). For more details, see pages 51–54 of this report.

The third observation relates to the unusually high number of Type 56-1 assault rifles that were manufactured in the same factory in China and that all have obliterated markings. These rifles made up 3 per cent of the Abu Khashab seizure, 7 per cent of the Sina'a prison seizure, and 16 per cent of the Qayrawan seizure. This commonality is further explored on pages 40–43.

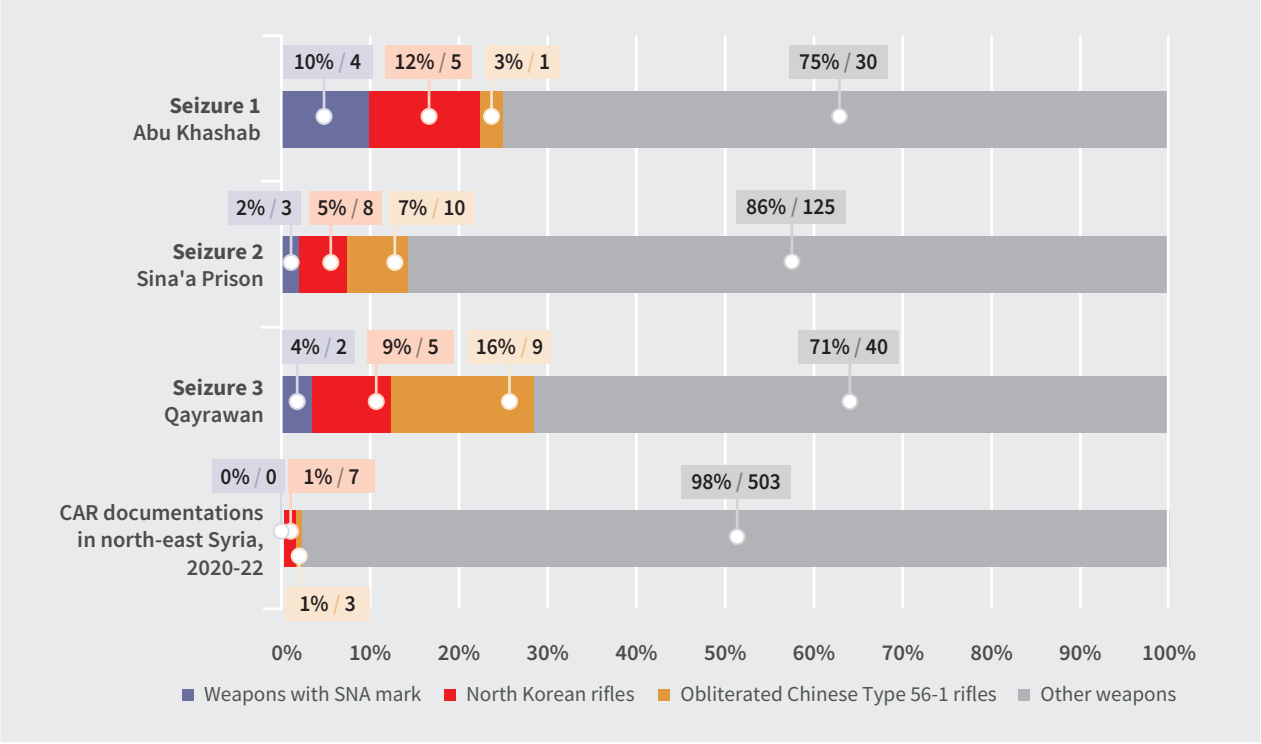
Table 2

Distinctive weapon commonalities among the three *inghimasi* seizures

Commonality	Number of weapons			Example
	Seizure 1 Abu Khashab	Seizure 2 Sina'a prison	Seizure 1 Qayrawan	
North Korean Type 68 assault rifles	5	8	5	
Weapons bearing Syrian National Army marks	4	3	2	
Chinese Type 56-1 assault rifles with obliterated markings	1	10	9	

Graph 2

Commonalities among weapons* across *inghimasi* seizures vs. other documentations in north-east Syria in 2020–22



*Selected weapon categories include assault rifles, machine guns, and shoulder-fired rocket launchers.

BOX 3 — **MATCHING COMPONENTS**

In documenting weapons recovered in the Abu Khashab seizure (Seizure 1), CAR investigators observed two bolt carriers with markings that did not match the weapons in which they were found. Investigators later documented the weapons with corresponding serial numbers among those recovered following the attack on Sina'a Prison (Seizure 2).

One weapon was a Type 68 rifle manufactured in North Korea, marked with the serial number 717118. The other was an AKMS rifle manufactured in Romania bearing the serial number AR 2024 1988.

To facilitate maintenance, most components of AK-pattern rifles are replaceable and interchangeable. These include bolts, bolt carriers, return spring guides, top covers, gas tubes, and rear sights. The matching marks clearly link the components documented in Seizure 1 with weapons recovered in Seizure 2 and strongly suggests that the two weapons were handled simultaneously at a single location, where the components were probably removed for cleaning or maintenance. During reassembly, the two components were swapped.

Although the serial numbers on the bolt carriers are not complete, their font and stamping indicate that they are highly likely to match the numbers of the respective original weapons (see Figure 12). CAR's tracing efforts with the Romanian Department for Export Controls confirmed that the AKMS rifle includes a non-original bolt carrier, as well as several other components.[19]

In all three *inghimasi* seizures, CAR investigators documented rifles featuring components that had similarly been removed from their original receiver and replaced into different rifles recovered in the same cache.

BOX 3 — **MATCHING COMPONENTS** (CONTINUED)

Figure 12

Left: A Type 68 assault rifle with the serial number 7717118 (top) and matching bolt carrier (bottom), seized in Sina'a prison and Abu Khashab, respectively.[20] Right: An AKMS assault rifle with the serial number AR 2024 1988 (top) and matching bolt carrier (bottom), seized in Sina'a prison and Abu Khashab, respectively.

Documented by CAR in Hasakeh district, Hasakeh governorate, in March 2022 and November 2022.

▼ **The bank of the Euphrates River, Raqqa, north-east Syria, 2023.**

AMMUNITION COMMONALITIES

For CAR investigators, one of the first and most obvious indicators that the *inghimasi* operations shared the same sources of materiel was that all three seizures contained numerous rockets and expelling charges manufactured in Bulgaria (see Figure 13). In total, CAR documented 308 Bulgarian rockets and charges, all but three of which were produced in the past decade and 81 per cent (248) of which were manufactured in 2018.[21] Notably, CAR observed four 2018 lot numbers on these items in each of the three seizures (see Table 3).

By 2018, the SDF had established control over the locations in which these rockets were later recovered. The 248 rockets documented by CAR investigators in the *inghimasi* seizures therefore were not part of materiel stockpiled by IS forces when they were in control of the area. Not counting small-calibre ammunition, these items made up 21 per cent of the documented ammunition in the Abu Khashab seizure, 5 per cent in the Sina'a prison seizure, and 44 per cent in the Qayrawan seizure (see Graph 3). This materiel is examined in detail on pages 54–58.

The three seizures also contained a total of 54 Mk2 hand grenades manufactured by the US factory Lone Star Ammunition Plant: 35 from Abu Khashab, 18 from Sina'a prison, and 1 from Qayrawan (see Figure 14). All 54 grenade fuzes bore the same lot number (LS-2-154); 43 grenades that were still in their cardboard packaging also bore identical lot numbers (LS-13-351).[22] Excluding small-calibre ammunition, the grenades made up 26 per cent of the ammunition of the Abu Khashab seizure, 7 per cent of the Sina'a prison seizure, and 0.5 per cent of the Qayrawan seizure (see Graph 3). CAR had not previously documented any US Mk2 grenades manufactured by Lone Star Army Ammunition Plant.[23]

Figure 13

Bulgarian OGi-7MA rockets and expelling charges in their original packaging, seized in Qayrawan in September 2022.

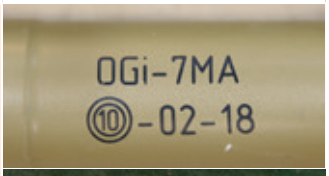
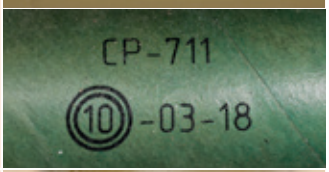
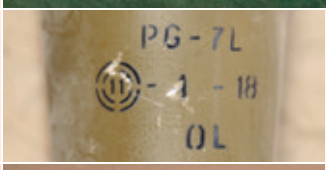
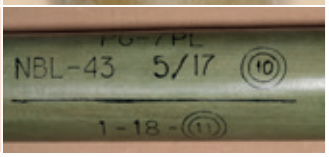
Documented by CAR in Hasakeh district, Hasakeh governorate, in November 2022.

Figure 14

Mk2 hand grenades with the lot number LS-13-351, recovered from Abu Khashab (left), Sina'a prison (centre), and Qayrawan (right). The Abu Khashab items were in a metal box whose markings indicated that it originally contained M430A1 HEDP 40 mm grenades.

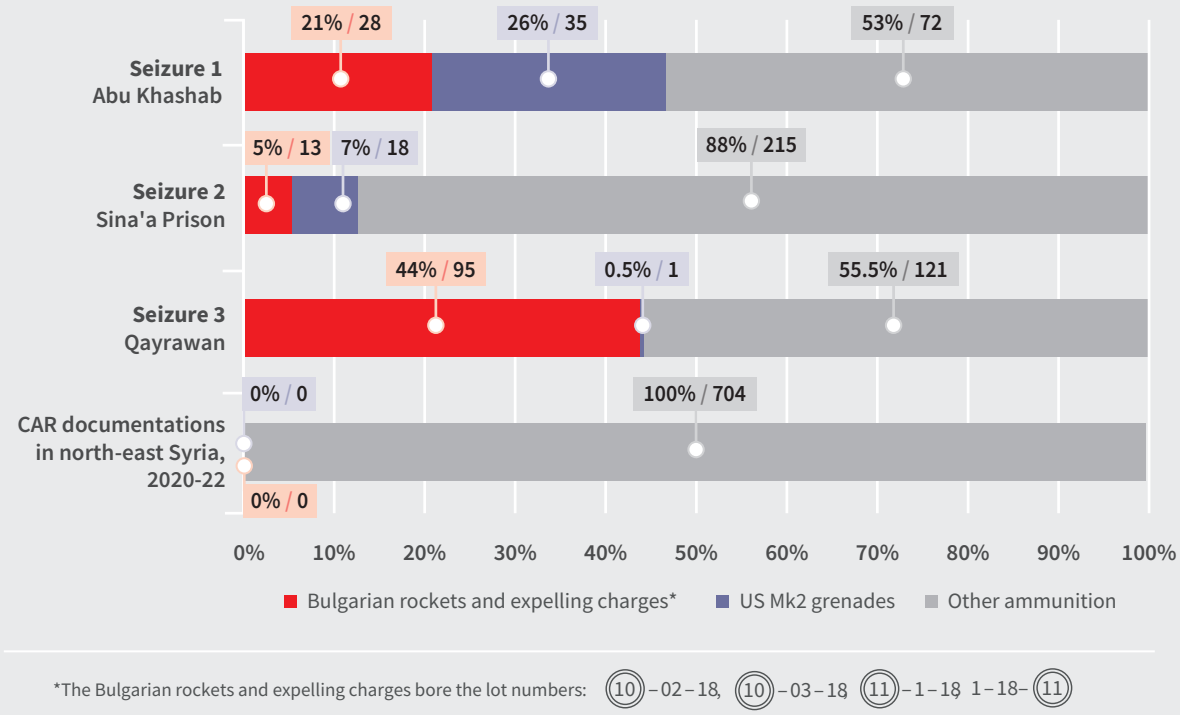
Table 3

Distinctive ammunition commonalities among the three *inghimasi* seizures

Ammunition			Number of items			Photographs
Type	Model	Lot number	Seizure 1 Abu Khashab	Seizure 2 Sina'a prison	Seizure 1 Qayrawan	
Bulgarian rockets and expelling charges manufactured in 2018	OGi-7MA rockets[24]	(10)-02-18	11	5	69[25]	
	CP-711 expelling charges	(10)-03-18	2	3		
	PG-7L rockets[26]	(11)-1-18	8	4	19	
	PG-7PL expelling charges	1-18-(11)	7	1	7	
Grenades manufactured by Lone Star Ammunition Plant	Mk2 grenades M204A1 fuzes	LS-2-154	35	18	1	
	Mk2 grenades with packaging	LS-13-351	31	11	1	

Graph 3

Commonalities in ammunition, excluding small-calibre ammunition, across *inghimasi* seizures vs. other documentations in north-east Syria, 2020–22



RESUPPLY CAPACITIES IN NORTH-EAST SYRIA

Analysis of these seizures shows that IS forces in north-east Syria maintain the capability to plan complex attacks through a centralised distribution network that can equip top-tier cells for specific, high-profile operations. This assessment also provides insight into the capacity and organisation of such a centralised structure. Although local security forces stymied a planned attack on Sina'a prison in November 2021, for example, IS forces were able to resupply members with similar weapons and ammunition to conduct a successful attack against the very same target within three months. In order for IS forces to rapidly resupply new materiel—including identical models, or even lots, to the weapons and ammunition lost in the Abu Khashab seizure— shows that forces in north-east Syria must either maintain a relatively large and centralised stockpile, or a rapid acquisition mechanism combined with an organised distribution network.

IS FORCES WERE ABLE TO RESUPPLY MEMBERS WITH SIMILAR WEAPONS AND AMMUNITION TO CONDUCT A SUCCESSFUL ATTACK AGAINST THE VERY SAME TARGET WITHIN THREE MONTHS.

CAR's analysis suggests that the capacity of IS forces to acquire materiel has been downgraded since their loss of territorial control in 2019. The age and general profile of the recovered weapons do not indicate that IS operatives developed effective new supply chains to secure access to advanced weaponry, even for their top-tier cells in north-east Syria.

The seizures also exhibit several notable absences, suggesting that IS forces in the region have access to—or actively select—a restricted pool of materiel. For one, NATO-

calibre rifles and small-calibre ammunition are virtually non-existent in the seizures, comprising 0.7 per cent of the weapons (one G3 and one M16A4 rifle) and 3.9 per cent of all documented ammunition (500 rounds of 5.56 × 45 mm ammunition).[27] Also noteworthy are the near-complete absence of optics—whether night vision equipment or telescopic sights—and the total lack of more recent AK variants, such as 5.45 × 39 mm AK-74 rifles.

One possible explanation is that IS forces did not want to risk losing costly equipment in *inghimasi* attacks, given their scarcity. Their reliance on older weapons may also be linked to the local availability of compatible ammunition and to the fact that these are familiar and time-tested platforms for fighters to operate. Overall, the materiel seized in the field was in good working order, having benefited from careful and considered long-term storage practices and with weapons generally matched to ammunition. However, the items recovered from these high-profile operations stand in stark contrast to the modern, expensive, and high-quality weapons often showcased by IS-affiliated media for propaganda purposes (Calibre Obscura, 2018b). Indeed, CAR's analysis shows that while IS forces maintain a centralised structure capable of refurbishing, stockpiling, and selecting materiel, they must also focus on maximising the impact of their limited arsenal, which is composed mostly of Warsaw Pact-calibre weapons and ammunition.

▼ **Small-calibre ammunition documented by CAR field investigators in Hasakeh, noth-east Syria, March 2022.**

SECTION 3

WEAPON ACQUISITION SOURCES

WEAPON ACQUISITION SOURCES

CAR's analysis suggests that IS networks in north-east Syria are reliant on three primary sources for materiel. First, the vast quantity of materiel accumulated at the height of the 'caliphate' continues to be used in high-profile IS attacks to this day. Second, IS forces have had to supplement their legacy stockpiles by capturing or obtaining weapons and ammunition from local armed groups that are themselves supplied with materiel by international actors. And third, they have continued to produce their own improvised devices at a semi-industrial level.

CALIPHATE-ERA RESOURCES

Centralised IS structures in north-east Syria draw on weapons, ammunition, and explosives in their existing stockpiles, much of which was amassed at the height of the 'caliphate' in 2014–15. They also rely on materiel that has been available locally since the beginning of the Syrian conflict.

North Korean rifles from Syrian government stockpiles

Investigators identified 18 North Korean Type 68 rifles among the *inghimasi* seizures. These rifles are uncommon in CAR's global data set of diverted weapons, and their presence in the three *inghimasi* seizures is unusual. The Type 68 rifles feature marks that suggest these items, their components, or the manufacturing capabilities were transferred from North Korea to Syria several decades before the outbreak of the Syrian conflict in 2011.

In total, CAR has documented 28 of these distinctive Type 68 rifles in north-east Syria since 2014 (Figure 15). The rifles are unlike other North Korean rifles that CAR has documented previously, in that they feature a series of markings that do not match any others in CAR's global database. Twenty-two of the 28 weapons—and 16 of the 18 rifles in the three *inghimasi* seizures—feature an Arabic 'ت' ('ta') battle setting mark on the rear sight, coupled

Figure 15

Still from a video issued by the Syrian Democratic Forces Press Center showing some of the weapons recovered from IS operatives in the immediate aftermath of the attack on Sina'a prison on 23 January 2022. A North Korean Type 68 rifle is outlined in white on the right of the image (SDF Press Center, 2022b).

with Western Arabic numerals (1 to 8). Twenty-three of the rifles have 'S/A/R' fire-selector marks on the right side of the receiver that differ distinctly from similar markings on Egyptian, Romanian, and recently manufactured Serbian assault rifles (CAR, 2023c).

Two of the rifles have Arabic fire-selector marks that have not been documented anywhere else in CAR's global operations: 'دراكا' (semi-automatic) and 'رشا' (automatic) settings. These same two rifles also feature the symbol of the Établissement Industriel de la Défense (EID) on the left side of the receiver (see Figure 16). EID, also known as Defense Laboratories Corporation (مؤسسة معامل الدفاع), is a department of the Syrian Ministry of Defence that is currently under sanctions imposed by the European Union and the United States (EU, 2014; US, 2011). It operates weapon and ammunition production facilities throughout Syria, including the Hama Military Factory, where AKM-pattern rifles known locally as Al-Hamwiya (الحموية) were assembled in the 1980s and early 1990s, according to local sources interviewed by CAR investigators.

The weapons share several commonly observed North Korean features, including a ribbed trigger guard, a flat-sided gas block, and a lightening cut on the rear of the front sight. The forward trunnions on two-thirds of the rifles recovered in the *inghimasi* seizures (12 of 18) were refurbished using a poorly operated milling machine and then restamped manually (see Figure 17). These characteristics are in line with what CAR has observed on North Korean weapons in other conflict areas.[28]

Figure 16

An EID mark on the receiver of a Type 68 rifle documented by CAR in north-east Syria (far left) and five rear sights with comparative battle marks (the first three photos from the left are on North Korean Type 68 rifles). The rear sight second from the right is from an Egyptian-manufactured Misr assault rifle, and the far right is a Polish-manufactured Kbk-AKMS rifle. The central rear sight is from a Type 68 rifle recovered from Sina'a prison, documented by CAR in Hasakeh district, Hasakeh governorate, in March 2022.

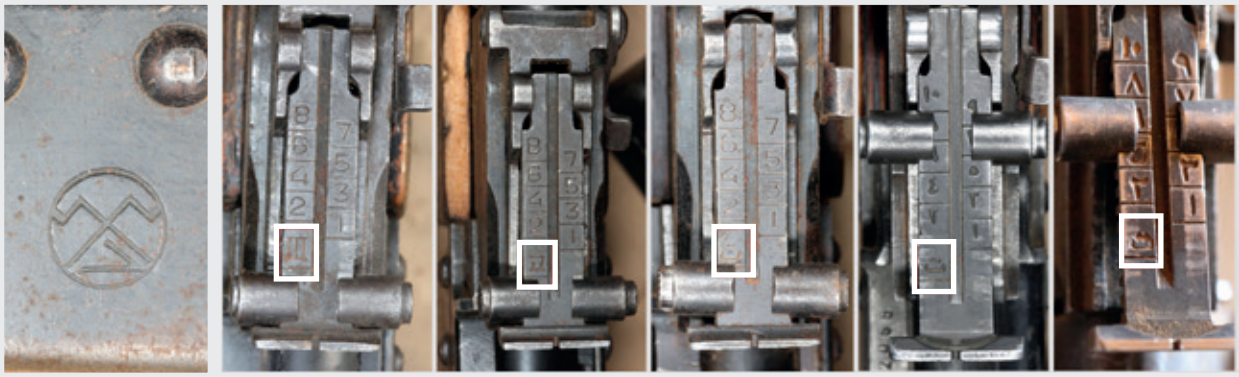
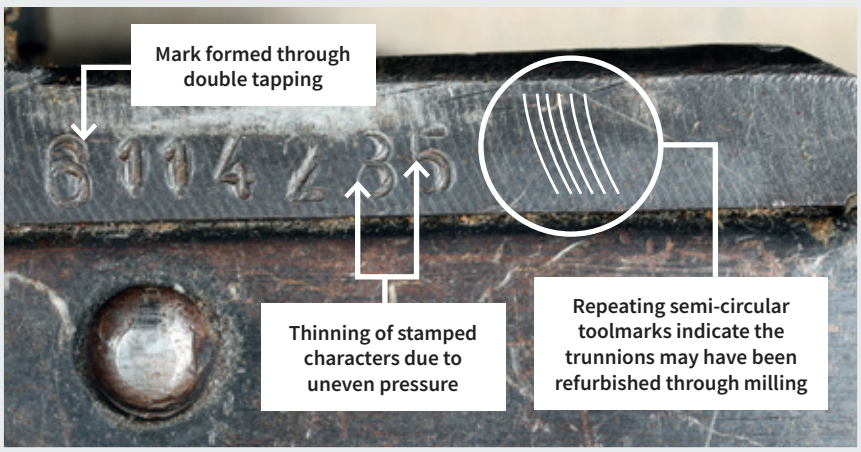


Figure 17

The forward trunnion of a North Korean Type 68 assault rifle, recovered by local security forces in Abu Khashab in November 2021. The trunnion has been refurbished and shows evidence of manual restamping.

Documented by CAR in Qamishli district, Hasakeh governorate, in December 2021.



These rifles are probably a particular export model of the Type 68 rifle. The Arabic rear-sight markings on most of the 28 rifles documented in north-east Syria and the Syrian factory marks on two of the rifles suggest that the rifles or their components may have been exported to the Syrian government. North Korea has reportedly provided military and technical assistance to Syria in the past, but there is limited publicly available information on small arms production in Syria or on the extent of North Korean support.[29] While IS forces may have acquired these weapons directly or indirectly from Syrian government stockpiles in the past decade, CAR cannot confirm this theory without further corroboration.

The heavy and repeated presence of North Korean weapons across the three seizures—all from IS cells planning complex *inghimasi* attacks in north-east Syria—stands out as highly unusual when compared to the rest of CAR's data. The finding provides additional support for the conclusion that a coordinated, centralised authority is responsible for the distribution and arming of operational IS cells in the region.

Indian explosives

Local security forces seized 48 spools of detonating cord and safety fuze, as well as some 8,000 detonators, from Sina'a prison and Qayrawan (Figure 18). IS cells use detonating cord and detonators to complete the explosive train between the switch and the main explosive charge of an IED. CAR documented commercial types of both items, which are also widely used in the mining and industrial sectors.

CAR traced the spools on which the manufacturer, lot, and date of manufacture were legible. Seven Indian-based manufacturers produced the majority of the detonating cord and safety fuze spools (42) and at least 600 detonators between April 2009 and March 2015 (see Table 4).[30] CAR first investigated six of these manufacturers in 2016, after documenting identical material in Iraq and Syria.[31] At that time, CAR's trace investigations showed that the items had all been manufactured between 2012 and 2014, and that they were legally exported under government-issued licences from India to registered importers in Lebanon and Türkiye.[32] Tracing of the *inghimasi* material has confirmed that it was part of these same transfers.[33]

Figure 18

Detonating cord and safety fuze spools in the Sina'a prison seizure.

Documented by CAR in Hasakeh district, Hasakeh governorate, in March 2022.

Table 4

Manufacturers of detonating cord and safety fuze spools and detonators documented by CAR in the Sina'a prison and Qayrawan seizures

Manufacturer	Items documented in 2022	Quantity	Date of manufacture*		Transfer (if identified)	Previously documented
			Date	Quantity		
CDET Explosive Industries Private Ltd.	100 ALFA-S Ordinary detonators	3 boxes	May 2015	1 box	1 box traced to undisclosed recipient in Lebanon	Iraq, June 2019
Chamundi Explosives	Safety fuze	2 spools	Unknown			Syria, February 2015
Premier Explosives Ltd.	Premiercord-12 detonating cord	1 spool	Unknown			Iraq, December 2015; Syria, February 2015
Rajasthan Explosives & Chemicals Ltd.[34]	R-Cord II detonating cord	1 spool	April 2009	1 spool		Syria, February 2015
	100 Super Plain detonators No. 8	3 boxes	Unknown			N/A
	Electric detonators	5,700	Unknown			N/A
Solar Industries India Ltd.[35]	Solar Cord II detonating cord	3 spools	September 2013	2 spools	3 spools[36] traced to İlci/ Solar Patlayıcı Maddeler San. Tic. A.Ş (Türkiye)[37]	Syria, February 2015
			March 2015	1 spool		
	Solar Cord III detonating cord	7 spools	December 2012	6 spools	6 spools[38] traced to Maybel Co. S.A.R.L. (Lebanon)	Syria, February 2015
	Solar Cord-series detonating cord	1 spool	Unknown			N/A
SUA Explosives & Accessories[39]	Macord-I detonating cord	14 spools	January 2014	11 spools		N/A
Vetrivel Explosives	Sun Cord detonating cord	13 spools	July 2013	2 spools	4 spools[40] traced to Lebanese Explosives Co. S.A.R.L. (Lebanon)[41]	Iraq, February 2016
			January 2014	2 spools		

Note: *CAR was not able to trace items that lacked or bore illegible markings required for tracing, such as date of manufacture, lot number, and batch number.

Detonating cord and safety fuze

The transfers of 2012–14 encompassed millions of metres of detonating cord. Solar Industries India Ltd. confirmed to CAR, for example, that the six Solar Cord III spools in the Sina'a prison seizure were part of a 2-million-metre order placed by the Lebanese company Maybel Co. S.A.R.L. in 2012. Four spools of Sun Cord detonating cord produced by Indian company Vetrivel were part of an order for 2 million metres of cord by Lebanese Explosives Co. S.A.R.L. in 2013 and 2014.[42] At the time, Maybel and Lebanese Explosives Co. were the only companies licensed for explosive import and sale in Lebanon.[43] Separately, three spools of Solar Cord II were part of two orders totalling 1.5 million metres by Turkish company İlci Patlayıcı Maddeler San. Tic. A.Ş. in 2013 and 2015 (see Figure 19).[44]

CAR's investigation shows that some of the detonating cord imported to Lebanon—including the sole documented Vetrivel shipment—was received by the same authorised recipient. This individual was also in receipt of the detonating cord acquired on their behalf by Maybel. The individual was later arrested and detained for allegedly supplying explosive material used in a domestic terror attack in Lebanon in 2015, an incident claimed by IS forces.[45]

Indian manufacturers assured CAR in 2019 that they would fully investigate future allegations of diversion and that they would no longer conduct business with any subsidiary company involved in identified diversions.[46] Analysis of United Nations Comtrade data does show a decline in reported trade for detonators and detonating cord from India to Lebanon after 2015 (UNSD, n.d.). Lebanese imports of this material dropped from 341,690 kg between 2011 and 2015 to just 52,800 kg in the subsequent six years (see Graph 4).[47] The manufacturers' response to the diversion of their material speaks directly to the benefits of in-field monitoring and tracing, and to the critical role of industry actors in mitigating the diversion of explosive materiel.

Figure 19

Top left to right: detonating cord purchased by Maybel Co. S.A.R.L., İlci Patlayıcı Maddeler San. Tic. A.Ş., and Solar Patlayıcı Maddeler. The cord was manufactured by Solar Industries India Ltd. and recovered in January 2022 following the Sina'a prison attack.

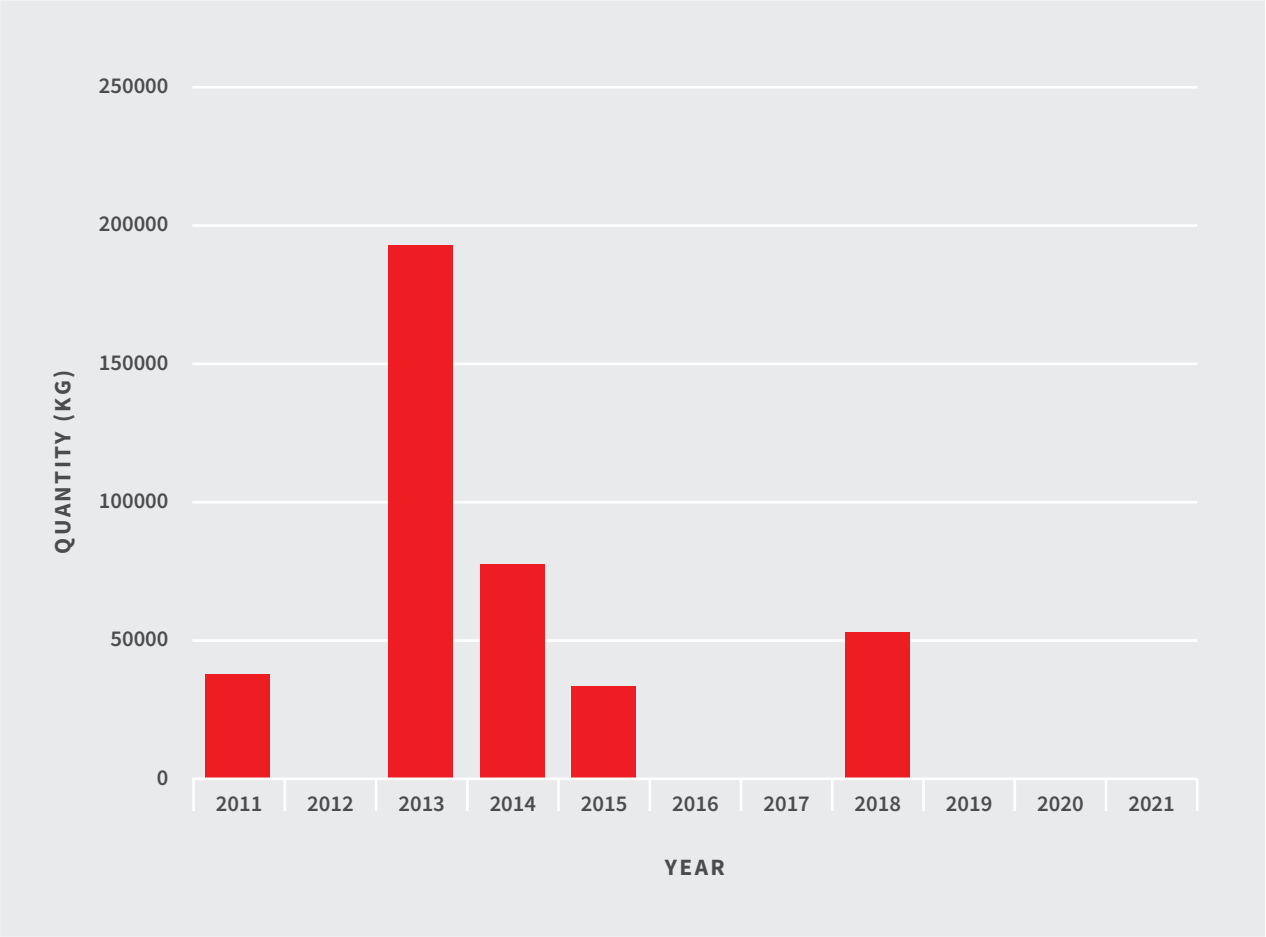
Documented by CAR in Hasakeh district, Hasakeh governorate, in March 2022.

Bottom: detonating cord exported to Maybel Co. S.A.R.L and subsequently recovered from IS forces at some point between September 2014 and January 2015.

Documented by CAR in north-east Syria on 24 February 2015.

Graph 4

Exports from India to Lebanon of material under Harmonized System code 3603 (safety fuses; detonating fuses; percussion or detonating caps; ignitors; electric detonators), 2011–21, based on UN Comtrade data (UNSD, n.d.)



Detonators

CAR also documented thousands of non-electric and electric detonators.[48] The non-electric detonators were in three boxes whose top flaps (bearing the model and manufacturer name) had been removed. Despite the systematic absence of key markings, CAR ascertained that one box contained 100 non-electric ALFA-S Ordinary detonators produced by Indian manufacturer CDET Explosive Industries Private Ltd. in 2015 (see Figure 20).[49] CDET reported that this box was part of a shipment of 2.75 million detonators exported in July 2015 to an undisclosed recipient in Lebanon for civilian uses, such as stone quarries and excavation projects.[50]

CAR had documented similar ALFA-S Ordinary detonators in Iraq in 2019. During tracing activities conducted at that time, CDET affirmed that the items were part of a shipment of 1.35 million detonators manufactured and exported in January 2014 for identical use in civilian excavation projects in Lebanon.[51]

The remaining detonators documented in north-east Syria were marked as having been manufactured by Rajasthan Explosives and Chemicals. The electric ones were stamped on the plug at the neck of the detonators; the non-electric detonators were identified in the markings on some of the boxes.

IS FORCES RELY ON ITEMS MANUFACTURED UP TO 25 YEARS AGO ALTHOUGH THE SHELF LIFE OF THESE EXPLOSIVE PRODUCTS IS OFTEN BETWEEN THREE AND TEN YEARS.

Tracing results for the detonators, detonating cord, and safety fuze recovered from IS cells in north-east Syria reinforce CAR's findings from 2016. Indian manufacturers legally exported these items between 2012 and 2015, under government-issued licences, to entities in Lebanon and Türkiye. IS cells apparently succeeded in stockpiling vast quantities of detonating cord and detonators at the height of the 'caliphate'. The presence of this older materiel in the recent seizures indicates that IS forces in north-east Syria are not able, or not choosing, to access supplies of detonating cord or detonators manufactured since mid-2015. On the contrary, one unidentified spool bore date marks showing that it was manufactured in 1997, suggesting that IS forces rely on items manufactured up to 25 years ago (although the shelf life of these explosive products is often between three and ten years).

Figure 20

Left: A box of 100 ALFA-S Ordinary detonators manufactured by CDET Explosive Industries Private Ltd., seized from Sina'a prison.

Documented by CAR in Hasakeh district, Hasakeh governorate, in March 2022.

The top flaps with manufacturer information were removed. Centre: A box of ALFA-S Ordinary detonators with its top flap intact. Right: A batch number recovered in Iraq and documented by CAR in September 2019.

Chinese Type 56-1 series and links to terrorist attacks in West Africa

CAR identified a large number of Chinese assault rifles with distinctive obliterations on the forward trunnions and rear sight blocks in the three *inghimasi* seizures. Security forces recovered 10 from Sina'a prison, 9 from Qayrawan, and 1 from Abu Khashab. These rifles are probably part of a single series that has also been associated with high-profile terrorist attacks in West Africa.

Since 2020, CAR investigators in north-east Syria have documented a total of 28 Chinese Type 56-1 assault rifles from the same '56' series, 20 of which were associated with the three *inghimasi* seizures. On 16 of the 20 rifles, the first two or three numbers of the serial number ('56' or '560') were intentionally removed from the forward trunnion.[52] In addition, the marks identifying the calibre, model, factory, and year of manufacture were either fully or partially removed from the rear sight block of all 28 of the rifles. The factory mark—the number 26 inside a triangle ▽26—identifies the manufacturer as Jianshe Machine Tool in China, and the CN-11 date mark are still partially visible (see Figure 21). The last five digits of the serial number were consistently left intact.

Obliterated markings on rifles are uncommon in CAR's broader Iraq and Syria data set. Since 2020, CAR investigators in north-east Syria have documented 135 weapons that showed evidence of efforts to remove the serial number. These account for 12.4 per cent of CAR's baseline data set since operations in the region resumed. Of these rifles, 48 were

from the three *inghimasi* seizures and—as noted above—16 of those were part of this '56' series. The obliteration efforts on these rifles may reflect a concerted effort to ensure that some of the *inghimasi* weapons would be untraceable; the decision to leave part of the serial numbers intact may have been intended to facilitate weapon management.

CAR understands that the first two digits of the '56' serial number directly correspond to the year of production: 56 indicates manufacture in 2011. These digits are removed on both the forward trunnions and the rear sight blocks of most of the rifles documented in Syria, indicating that a previous custodian made deliberate attempts to obscure the year of production.

Figure 21

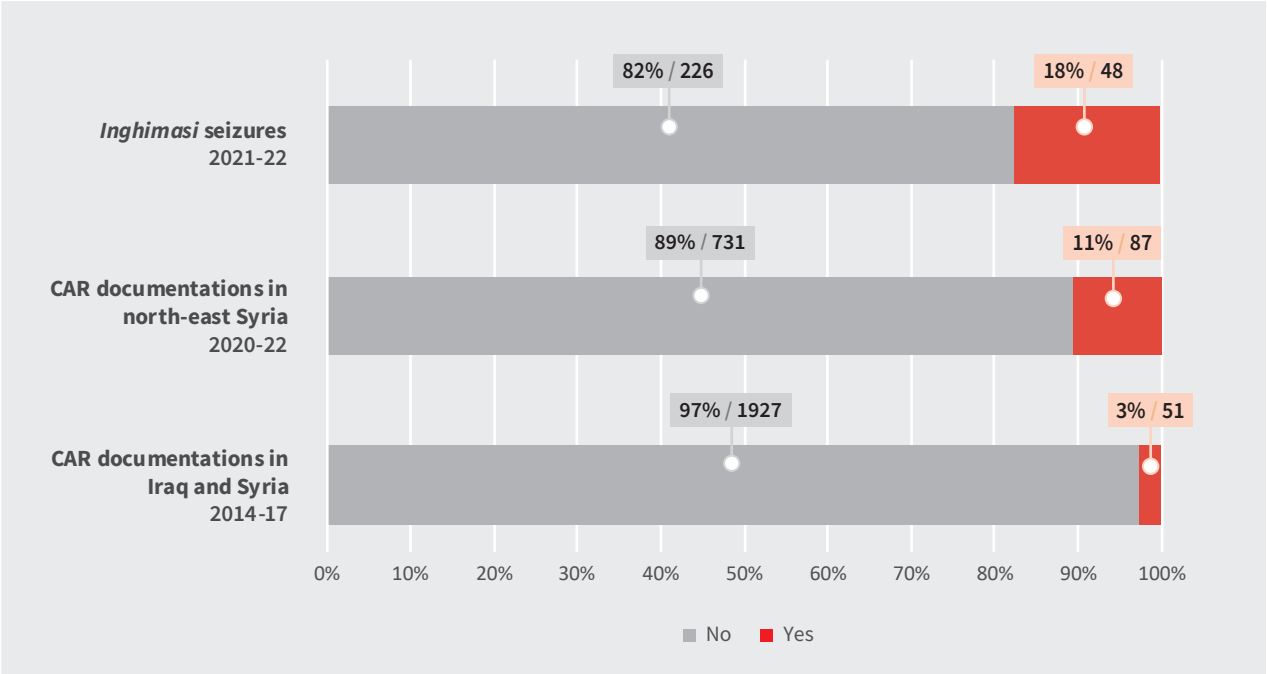
Top: A Chinese Type 56-1 assault rifle produced by Jianshe Machine Tool, recovered from Sina'a prison in January 2022.

Documented by CAR in Hasakeh district, Hasakeh governorate, in March 2022.

Bottom left: The first three digits of the serial number have been removed. Bottom right: The date mark '11-CN' on the rear sight block remains partially visible.

Graph 5

Proportion of weapons with obliterated marks in the *inghimasi* seizures, compared to the baseline data set in north-east Syria since 2020, and to documentations in Iraq and Syria between 2014 and 2017

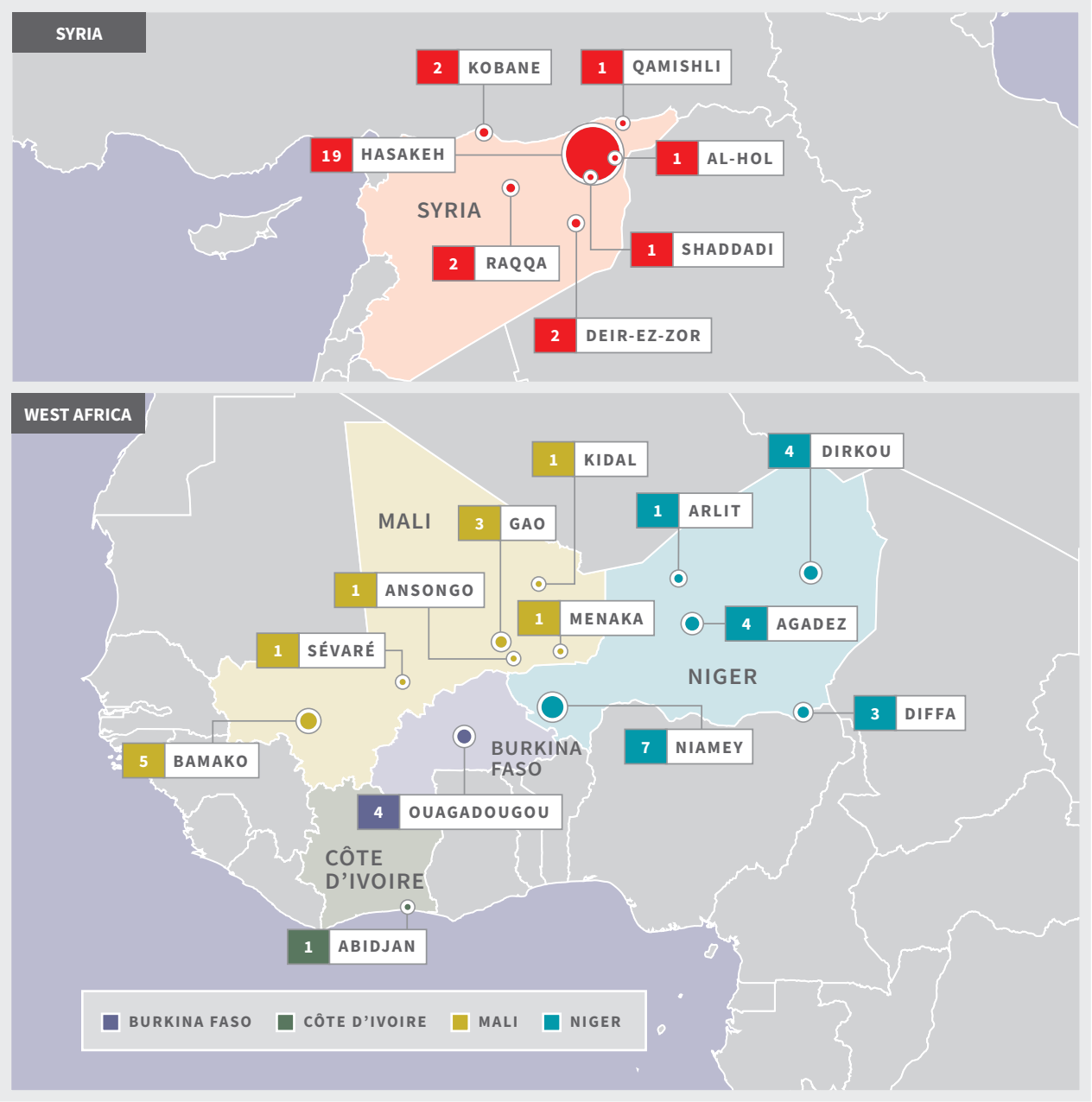


CAR investigators working in north-east Syria first documented two weapons from the '56' series in Kobane in 2015. Around the same time, 17 weapons that were apparently from the same set of rifles were used during a wave of terrorist attacks in West Africa. Claimed by al-Mourabitoun and al-Qaeda in the Islamic Maghreb, these attacks took place between August 2015 and March 2016, before the fall of the 'caliphate' in Iraq and Syria.[53] Fifteen of the 17 rifles had similar signs of obliteration.

Since 2015, CAR has documented a total of more than 60 rifles whose serial numbers begin with '560' in Burkina Faso, Côte d'Ivoire, Mali, Niger, and Syria; 50 of these weapons bear some evidence of obliteration (see Map 2). IS forces in Syria may have acquired these weapons as early as 2015, although the precise timeline remains unclear.

Map 2

Type 56-1 assault rifles in the '56' series, seized in north-east Syria and in West Africa, and documented by CAR between 2014 and 2022



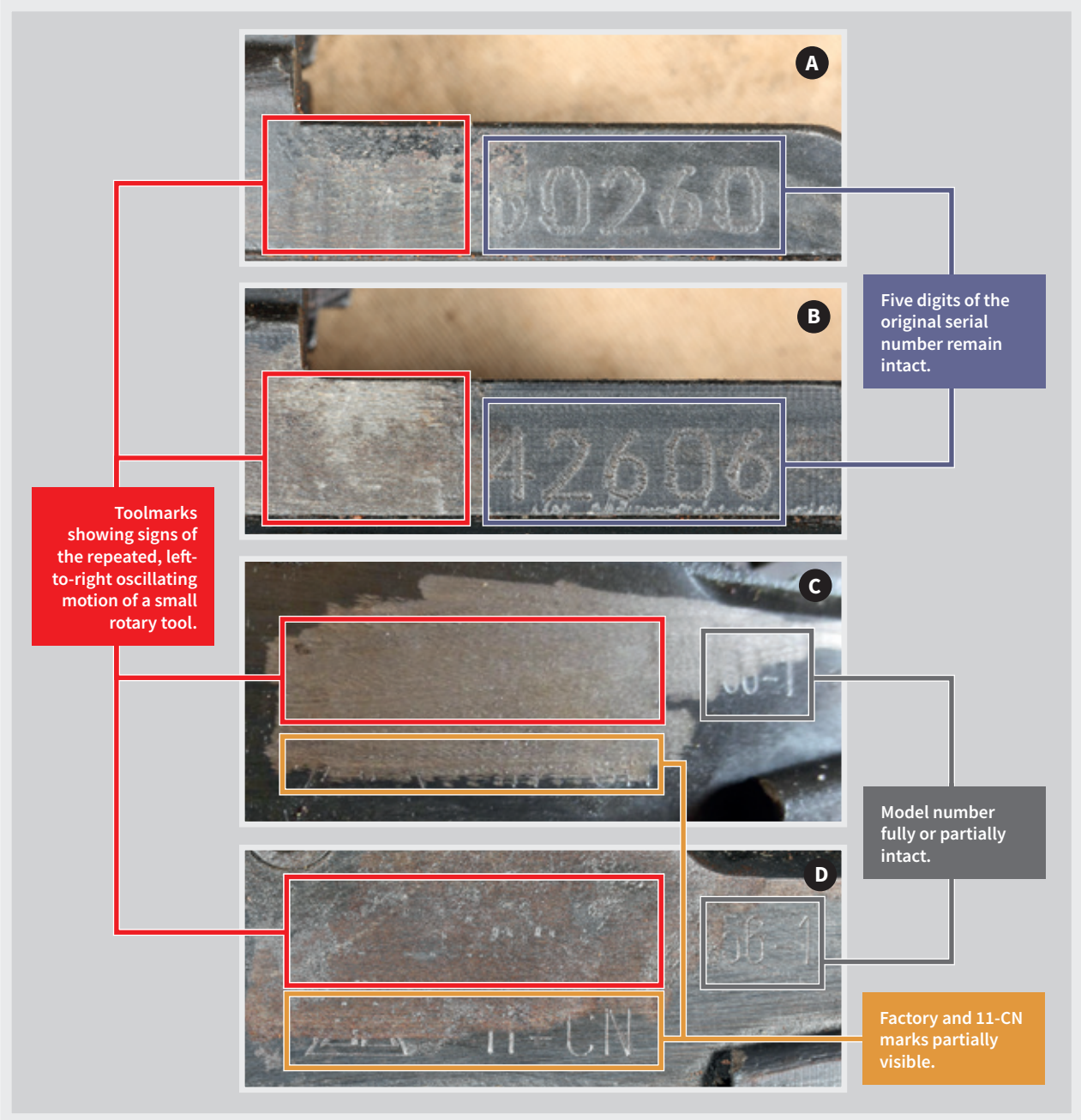
All obliterations on the rifles in the '56' series documented in north-east Syria and in West Africa appear to have been conducted in the same way—using a Dremel-style rotary tool with a polishing bit, as suggested by short striations and thin tracks. This approach to mark removal is common in many conflict theatres due to its simplicity, speed, and low power requirement. CAR's analysis indicates that the same removal technique was used on the forward trunnions and the rear sight blocks.

All the documented rifles in the series may thus have passed through the same location for mark removal, potentially over a long time period (see Figure 22).

The fact that Type 56 rifles recovered from high-profile terrorist operations in north-east Syria and West Africa exhibit similar obliterations strongly suggests that Islamist militants in both regions share a common upstream source.

Figure 22

Analysis of mark removal on four different Chinese Type 56-1 rifles documented in Mali (C) and Syria (A), (B) and (D).



Links to the Syrian armed opposition and international counter-IS efforts until 2016

North-east Syria's porous borders with Iraq appear to facilitate transfers of weapons and other materiel into and within the region. During previous field investigations into IS weapon holdings during the 'caliphate' era, CAR found continued evidence of cross-border movement of weapons between Iraq and Syria (CAR, 2017, p. 36). CAR investigators were able—through formal tracing with the manufacturing state—to link five items in the *inghimasi* seizures to legal sales to two recipients: the United States at the time of its intervention in Iraq (2002–03) and to the Iraqi government during its counter-insurgency efforts (2005–07). These items—2 assault rifles, 2 machine guns, and 1 rocket—moved across the Iraq–Syria border before, during, or following the collapse of the 'caliphate' and were still in good condition more than 20 years after the initial transfers (see Table 5).

The majority of the weapons and ammunition that CAR investigators linked to cross-border movement from Iraq, however, date to transfers between 2013–16. During that period, foreign parties were arming Syrian opposition groups and other local partners in Iraq and Syria to counter IS forces. As early as 2013, the United States and allied governments began supplying weaponry and training to the Free Syrian Army militias fighting Syrian president Bashar al-Assad as part of Operation Timber Sycamore. In 2014, the US Special Operations Command—with the participation of Jordan, Qatar, Saudi Arabia, and Türkiye—launched a 'train and equip' programme to further support the Syrian opposition (Miller, 2013). US officials announced an end to US support of Syrian armed opposition groups in July 2017;[54] Saudi Arabia reportedly ended its transfers around the same time (Chulov, 2017).

CAR traced 49 weapons and 293 units of ammunition in the three *inghimasi* seizures to transfers that took place between 2013 and 2016.[55] These investigations would not have been possible without the significant cooperation of the states that manufactured this materiel—Bulgaria, Pakistan, Romania, and Serbia. The governments of these states provided timely and comprehensive responses to CAR's formal trace requests. In the absence of further confirmation from recipient countries, it is not possible to identify exactly how these items were subsequently diverted to IS forces in north-east Syria. However, the support of the manufacturing states to CAR's tracing efforts has permitted investigators to build a picture of international efforts to counter IS forces by helping to identify the last known legal custodian of the items that were subsequently diverted (see Table 5). In four instances, CAR investigators previously documented materiel with the same lot numbers in Iraq or Syria that were recovered during the height of the 'caliphate' (CAR, 2017).

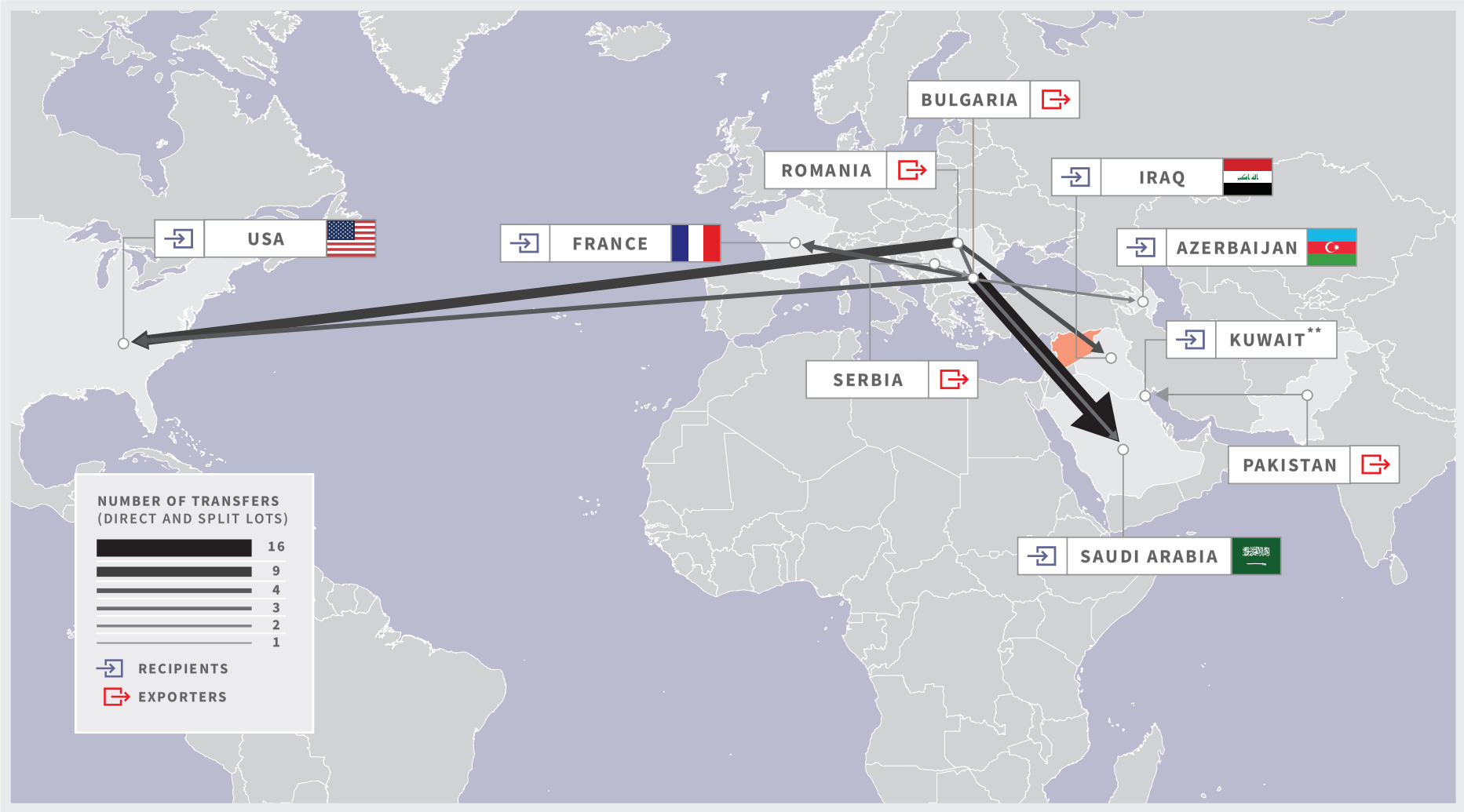
Based on responses to trace requests, CAR identified 19 onward custodians for this materiel, spanning nine countries. The majority of transfers pertain to three countries: Saudi Arabia (19), the United States (14), and Iraq (4) (see Map 3).

▼ **A CAR field investigator documenting weapons recovered by local security forces in north-east Syria, November 2022.**

44

Map 3

Number of transfers for traced materiel legally exported between 2002 and 2016*



*This map does not include transfers to countries that only appear in a single split lot in Table 5.
**The United States Government was the stated end-user for this transfer.

In some cases, lots were produced in large numbers and split across multiple recipients. In Table 5, these 'split lot' transfers are shown in dark grey. CAR does not consider it likely that recipient countries appearing only once in a single split lot transfer—specifically Angola, South Africa, and Uganda—are involved in the onward resupply of materiel then used in Iraq and Syria, although this can only be confirmed through further formal tracing with the concerned authorities.

Table 5

Traced materiel transferred between 2002 and 2016[56]

Quantity traced	Type	Model	Serial or lot number	Traced route	Date
1	Assault rifle	AKM	UH-7501-2001[57]	Romania > US Department of Commerce	21 November 2002
1	Rocket	PG-7	12-03-458[58]	Romania > United International Supplies, United States	April 2003
1	Assault rifle	AKM	IBУ-3623-04[59]	Romania > Iraqi Ministry of Defence	3 February 2005
1	General-purpose machine gun	Mitraliera md. 66	BS-4209[60]	Romania > Iraqi Ministry of Interior	21 July 2005
1	General-purpose machine gun	Mitraliera md. 66	BS-02883[61]	Romania > Iraqi Ministry of Interior	7 June 2007
1	Rocket	RF-7MA	(10)-04-13[62]	Bulgaria > Saudi Ministry of Defense Bulgaria > US Air Force	2013
1	Rocket	RF-7MA	(10)-01-13[63]	Bulgaria > Saudi Ministry of Defense Bulgaria > Armed Forces of France Bulgaria > US Navy	2013 2014 2014
12	Expelling charge	CP-71	(10)-05-14[64]	Bulgaria > Saudi Ministry of Defense Bulgaria > Ministry of National Defense and Homeland Veterans of Angola	2014
3	Expelling charge	CP-71	(10)-02-14[65]	Bulgaria > Saudi Ministry of Defense	2014†
2	Rocket	RF-7MA	(10)-05-14[66]	Bulgaria > Saudi Ministry of Defense	2014
2	Rocket	RF-7MA	(10)-04-14[67]	Bulgaria > Saudi Ministry of Defense Bulgaria > Special Forces of South Africa Bulgaria > Armed Forces of France	2014
1	Rocket	PG-7T	(11)-2-14[68]	Bulgaria > US Department of Defense	2014
6	Rocket	OGi-7MA	(10)-14-15[69]	Bulgaria > Saudi Ministry of Defense Bulgaria > Ministry of Defense and Veterans Affairs of Uganda	2014 2016
6	Expelling charge	PG-7PM	16-15-452[70]	Romania > US Department of the Army	October 2015
1	Rocket	PG-7M	17-15-452[71]	Romania > US Department of the Army	22 Dec 2015†

Quantity traced	Type	Model	Serial or lot number	Traced route	Date
1	Rocket	PG-7T	(11)-3-15[72]	Bulgaria > Saudi Ministry of Defense	2015
3	Expelling charge	PG-7PT	5-15-(11)[73]	Bulgaria > Saudi Ministry of Defense	2015
1	Rocket	PG-7T	(11)-5-15[74]	Bulgaria > Saudi Ministry of Defense	2015
3	Expelling charge	PG-7PT	4-15-(11)[75]	Bulgaria > Saudi Ministry of Defense	2015
3	Expelling charge	PG-7PM	9-14-(11)[76]	Bulgaria > Saudi Ministry of Defense	2015
3	Expelling charge	PG-7PL	6-15-(11)[77]	Bulgaria > Saudi Ministry of Defense	2015/2016
				Bulgaria > Ministry of Defense Azerbaijan	2015
				Bulgaria > Armed Forces of France	
1	Rocket	PG-7T	(11)-6-15[78]	Bulgaria > Saudi Ministry of Defense	2015/2016
				Bulgaria > Ministry of Defense Azerbaijan	2015
				Bulgaria > Armed Forces of France	2015
1	Machine gun	M84	47933[79]	Serbia > BIEM Ltd. (Bulgaria)	10 February 2016
1	Rocket	PG-7M	16-15-452[80]	Romania > US Department of the Army	14 March 2016†
1	General-purpose machine gun	Mitraliera md. 66	F-7239[81]	Romania > US Department of the Army	March 2016
1	Assault rifle	AKM	UX-2363-16[82]	Romania > US Department of the Army	March 2016
1	Assault rifle	AKM	UW-5248-15[83]	Romania > Iraqi Ministry of Defence	May 2016
1	Expelling charge	PG-7PM	24-16-453[84]	Romania > Armytrans Ltd. (Bulgaria) > Saudi Ministry of Defense	June 2016
1	Rocket	PG-7M	22-16-453[85]	Romania > US Department of the Army	June 2016
1	Rocket	HEAT P1 MK 1	09-16 057[86]	Pakistan > Chemring Military Products for US Special Forces in Kuwait	2016
1	Assault rifle	AKM	UZ-2508-16[87]	Romania > US Department of the Army	12 September 2016
3	Expelling charge	PG-7PM	25-16-453[88]	Romania > Khan Asparuh Trade Ltd. (Bulgaria)[89] > Saudi Ministry of Defense	2016
4	Rocket and charge	PG-7PM	21-16-453[90]	Romania > US Department of the Army	2016
1	Rocket	PG-7T	(11)-5-16[91]	Bulgaria > Saudi Ministry of Defense	2016
4	Expelling charge	PG-7PM	23-16-453[92]	Romania > Khan Asparuh Trade Ltd. (Bulgaria)[93] > Saudi Ministry of Defense	2016
6	Expelling charge	PG-7PM	5-14-(11)[94]	Bulgaria > Saudi Ministry of Defense	Date unspecified

■ *Lots that have been split across multiple recipients.*

† *Lots that CAR has previously documented in Iraq and Syria (CAR, 2017).*

CAR sent formal trace requests to the Bulgarian government regarding rockets and expelling charges that were recovered in the aftermath of the Sina'a prison operation in January 2022. In response, the Bulgarian authorities affirmed that it had manufactured all the traced items and delivered them to the Saudi Ministry of Defense between 2013 and 2016, in 19 shipments (These transfers are detailed in Table 5). CAR's tracing also indicates that Bulgarian brokers were involved in the re-export of eight Romanian PG-7PM rockets and expelling charges to the Saudi Ministry of Defense in 2016. Box 4 on page 49 details a similar transfer dynamic, in which a Bulgarian-based broker purchased materiel from Serbia and re-exported it to Saudi Arabia. Saudi Arabia has not responded to CAR trace requests regarding the onward chain of custody of this materiel.

Taken together, Bulgaria, Pakistan, and Romania authorised 14 transfers containing rifles, rockets, and expelling charges that were either delivered directly to the United States or to its regional bases. For 12 of these, the US military was the stated end user. The United States has not responded to CAR's inquiries into the onward chain of custody of this materiel.

CAR also recorded four routes used for shipments from Bulgaria and Romania to the Iraqi government between 2005 and 2016. In each case, an entity within the recipient government was the declared end user. IS fighters' large-scale battlefield capture of weapons and ammunition from Iraqi security forces and US-backed Syrian opposition forces is well documented, but it remains challenging to determine the precise circumstances of how IS forces acquired those items.

In all cases, CAR has yet to receive confirmation of the onward transfer of materiel beyond their legal custodians identified in formal tracing efforts and does not allege that any of the countries discussed in this report were directly involved in the diversion of materiel to IS cells in north-east Syria.

The tracing shows that IS continues to rely on materiel that it captured from Syrian armed opposition or Iraqi security forces, including those probably equipped by the United States and Saudi Arabia, well after the collapse of the 'caliphate'. This assessment is in line with CAR's previous findings, including those published in the 2017 report Weapons of the Islamic State (CAR, 2017). It speaks to both the longevity of the equipment and to IS forces' ability to maintain older stockpiles, even after years of persistent investigation and harrying by local and coalition forces.

IS CONTINUES TO RELY ON MATERIEL THAT IT CAPTURED FROM SYRIAN ARMED OPPOSITION OR IRAQI SECURITY FORCES, INCLUDING THOSE PROBABLY EQUIPPED BY THE UNITED STATES AND SAUDI ARABIA, WELL AFTER THE COLLAPSE OF THE 'CALIPHATE'.

▼ View from the Jurniye Road, north-east Syria, 2023.

BOX 4 — **TRACING THE SUPPLY CHAINS OF SERBIAN-MANUFACTURED MACHINE GUNS**

Several weapons produced by eastern European manufacturer states were traced to transfers involving the Bulgarian arms brokers Armytrans Ltd., B.I.E.M. Ltd., and Khan Asparuh Trade Ltd. These three companies were all identified as confirmed legal custodians of items including Romanian PG-7 rockets and Serbian M84 machine guns (see Table 5).

The Government of Bulgaria confirmed to CAR that the items brokered by Armytrans and Khan Asparuh were transferred onwards to the Government of Saudi Arabia, the stated end user.[95] CAR assesses that at least some of these weapons may have been used to equip Syrian opposition groups.

Among these weapons is a Serbian M84 machine gun with the serial number 47933 (see Figure 23).[96] It was purchased by the broker B.I.E.M. in February 2016 and features a post-production mark that CAR analysis has shown is associated with the SNA (see Figure 24 and pages 51–54).[97]

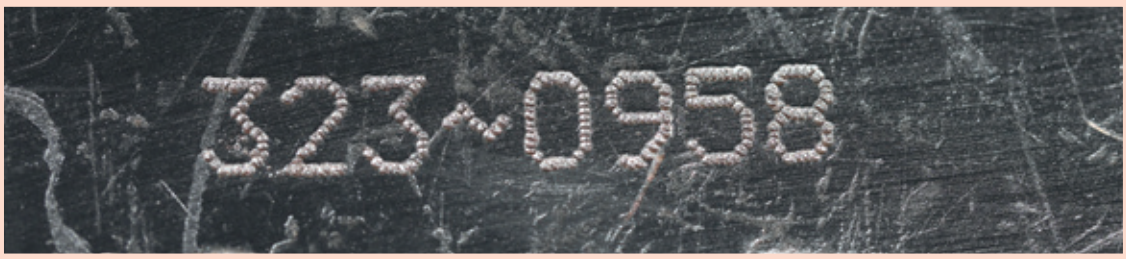
Figure 23

A Serbian M84 machine gun with the serial number 47933, recovered from Abu Khashab. The original barrel was replaced with a fluted barrel that shares characteristics with the Bulgarian MG-1M barrel.

Documented by CAR in Qamishli district, Hasakeh governorate, in December 2021.

Figure 24

An SNA post-production mark, applied to the receiver of the Serbian M84 machine gun shown in Figure 23 (serial number 47933).



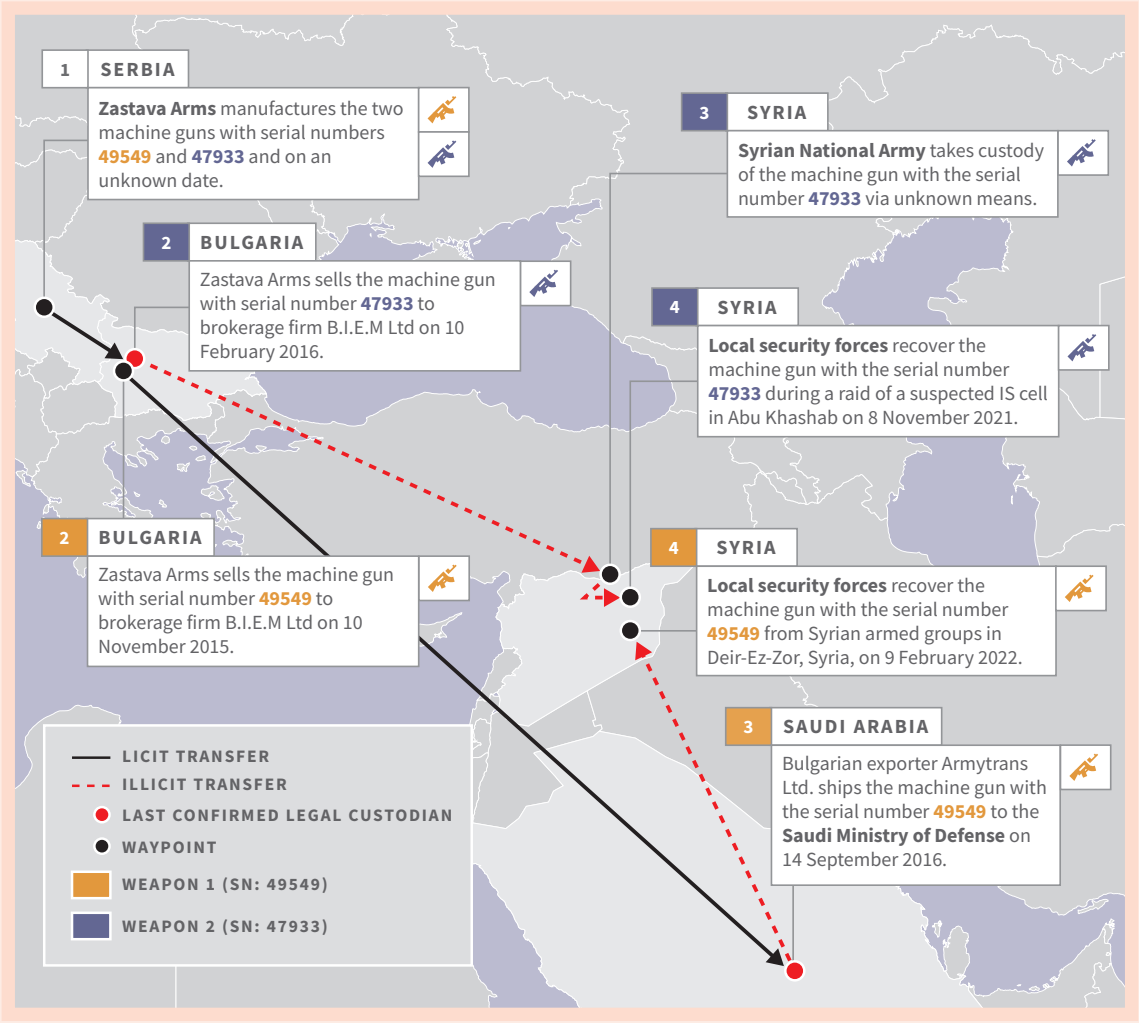
BOX 4 — **TRACING THE SUPPLY CHAINS OF SERBIAN-MANUFACTURED MACHINE GUNS** (CONTINUED)

Other research has identified B.I.E.M. as a major conduit for the supply of weapons to Syrian rebels via Saudi Arabia and Türkiye. In 2017, Balkan Insight reported that Zastava Arms had sold M02 Coyote machine guns to B.I.E.M. for export to Saudi Arabia in 2015–16 and onward delivery to Syrian rebels, including the Free Syrian Army. At that time, the Free Syrian Army was fighting against both Syria's Assad regime and IS forces (Marzouk et al., 2017).

CAR documented another Serbian M84 machine gun in Deir-ez-Zor in April 2022 following its recovery by local security forces. Serbia confirmed that this weapon, which bears the serial number 49549, had been exported to B.I.E.M. in September 2016, with the stated end user being the minister of defence of Saudi Arabia.[98] Although the item was not recovered in the context of an *inghimasi* attack, the transfer records support the hypothesis that both machine guns were intended to equip Syrian opposition groups before being acquired by other armed actors in the region.

Map 4

Chain of custody for two Serbian-manufactured M84 machine guns; serial number 47933 (weapon 1) and 49549 (weapon 2)



RECENT ACQUISITION EFFORTS

In analysing the *inghimasi* seizures, CAR has found limited evidence that IS forces have been able to access new supplies of weapons from sources outside of north-east Syria. The documented materiel does indicate, however, that IS fighters have managed to supplement their previous stockpiles since they lost territorial control in 2019. In particular, IS forces have acquired weapons bearing post-production marks that show links to other non-state actors in the region, as well as ammunition manufactured after the 'caliphate' era.

Syrian National Army post-production markings

In each of the three recoveries, CAR documented weapons bearing a distinctive secondary marking. The mark was applied consistently across the weapons, using a dot-peen machine. It is uniform in size, font, and pattern. The mark comprises seven digits in the pattern 'XXX~XXXX' (see Figure 25). The first three digits are separated from the next four by a highly unusual tilde symbol (~). This mark, applied across a disparate set of materiel, identifies these weapons as having shared a common custodian, that CAR's analysis shows is the Syrian National Army (SNA).

CAR has not observed this mark on any of more than 1,000 other weapons documented in north-east Syria since 2020, nor in its extensive investigation of IS weapons in Iraq and Syria carried out between 2014 and 2017.[99] In March 2021, CAR investigators came across their first weapon with a 'XXX~XXXX' dot-peened mark, in West Africa: an assault rifle smuggled in from Libya that same year.

Nine weapons in the three *inghimasi* seizures bear this same distinctive mark (see Table 6). It was applied on a variety of weapon systems, spanning a range of models and manufacturers: 7 AK-pattern assault rifles, 1 machine gun, and 1 one rocket launcher.

Table 6

Seized weapons bearing marks in the format 'XXX~XXXX', documented by CAR in 2021–22

Seizure		Weapon		Marking
Date	Location	Manufacture	Model	
January 2021	West Africa	East Germany[100]	MPi-KMS assault rifle	145~0700
November 2021	Abu Khashab	East Germany[101]	MPi-KM assault rifle	121~0760
		Iraq	Tabuk assault rifle	141~0390
		China	Type 69-1 rocket launcher	211~1047
		Serbia	M84 machine gun	323~0958
January 2022	Sina'a prison	Romania[102]	AKM assault rifle	211~2096
		Unknown[103]	AKMS assault rifle	213~1018
		China	Type 56-1 assault rifle	231~1159
September 2022	Qayrawan	China	Type 56-1 assault rifle	211~1085
		Romania[104]	AKM assault rifle	211~1494

Figure 25

Post-production markings on weapons seized in Abu Khashab in November 2021.

Documented by CAR in Qamishli district, Hasakeh governorate, in December 2021.

None of these marks match the primary serial numbers on the weapons in any way, suggesting that there is no relation between the manufacturer of the weapon and the entity that applied the dot-peen marking. The marks must have been applied further down the transfer chain by a common custodian. Such post-production marks tend to be applied to facilitate the tracking of stockpile inventory or firearm assignations to individuals or units.

CAR's analysis of the marks indicates that these nine weapons were all at one point in the custody of SNA forces operating in north-east Syria. The SNA was formed in late 2017 and early 2018, with the support of Türkiye, which provided training and supplied the forces with weapons (Yüksel, 2019). The SNA reportedly faced challenges in ensuring control over small arms and light weapons allocated to its members (Ibrahim, 2022). Efforts to control weapons by applying post-production marks started in Afrin district, shortly after the SNA took control of the area during Operation Olive Branch in 2018, according to local sources. The SNA reportedly replicated those weapon management practices after establishing control over parts of Tal Abyad and Ras al-Ain districts in the aftermath of Operation Peace Spring in October 2019, probably from October 2020 onward.[105]

The SNA comprises three legions that are subdivided into divisions, each of which is made up of several brigades (Özkizilcik, 2020).[106] The first three digits of each weapon mark observed by CAR appear to correspond to a legion, division, and brigade, in that order. The remaining four digits probably serve as a secondary serial number (see Figure 26). On this basis, CAR has determined that the nine weapons that bear the documented marks may be linked to six different SNA brigades (see Table 7).

Figure 26

Key to the mark on a Tabuk assault rifle seized by local security forces in Abu Khashab in November 2021. The first three digits may identify the SNA custodian legion, division, and brigade; the latter four serve as a secondary serial number.

Table 7

Probable custodian brigades of weapons bearing 'XXX~XXXX' marks, documented by CAR in 2021–22

Seizure	Marking	Legion	Divison	Brigade	Name
West Africa	145~0700	1st	14th	145th	Jaysh al-Nukhba
Abu Khashab	121~0760	1st	12th	121st	Liwa Samarkand
	141~0390	1st	14th	141st	Faylaq al-Sham
	211~1047	2nd	21st	211st	Firka Sultan Murad
	323~0958	3rd	32nd	323rd	Jabhat Shamiya
Sina'a prison	211~2096	2nd	21st	211st	Firka Sultan Murad
	213~1018	2nd	21st	213rd	Firka Sultan Murad
	231~1159	2nd	23rd	231st	Firka Muttasim
Qayrawan	211~1085	2nd	21st	211st	Firka Sultan Murad
	211~1494	2nd	21st	211st	Firka Sultan Murad

As shown in Table 7, half of the documented weapons bearing an SNA mark were once in the custody of Firka Sultan Murad, a predominately ethnic Turkmen division supported by Türkiye and reportedly deployed to both Libya and Azerbaijan in 2020 (McKernan, 2020; Zaman, 2020). Since October 2019, the group has expanded its presence from Afrin and Jarablus to Ras al-Ain district, an area used to collect weapons and smuggle them into north-east Syria via the Abdul Aziz mountains, according to local security forces.[107]

CAR's assessment is corroborated by open-source analysts—who first observed these unique markings in Syria in late 2019 (Calibre Obscura, 2021)—as well as through interviews with local sources with knowledge of SNA marking practices.[108] The mark is also visible on weapons for sale in online forums and in promotional material issued by the SNA itself. An example of the latter is visible in Figure 27, which zooms in on the mark '231~1309' on a machine gun, shown in footage of a training exercise conducted by the Firka Muttasim of the SNA's 2nd Legion.

Figure 27

Still from a promotional video issued by the SNA Firka Muttasim on 19 October 2020 (Youtube, 2020).

▼ **Rockets laid on the ground prior to documentation by CAR field investigators in Qayrawan, north-east Syria, November 2022.**

CAR has not been able to establish the diversion mechanisms through which IS forces sourced these weapons via the SNA. Researchers in Syria have reported on links between some SNA factions and IS weapon smugglers (STJ, 2021). IS forces may have availed themselves of other diversion mechanisms, such as capture or theft from SNA stockpiles or individual fighters.[109]

Separately, CAR has identified at least one case in which a weapon that was probably held by units of the Syrian Democratic Forces was subsequently diverted to IS forces and used in *inghimasi* operations in north-east Syria (see Box 5). It remains unclear how this weapon was diverted to IS forces.

BOX 5 — **WEAPONS LINKED TO THE SYRIAN DEMOCRATIC FORCES**

CAR investigators documented a Russian AKM assault rifle from 1973 that local security forces had recovered in the aftermath of the Sina'a prison attack in January 2022. The rifle bears an Iraqi arsenal mark on the receiver. This was applied during the regime of Saddam Hussein, meaning it had originally been exported to the Iraqi government at some point prior to the collapse of the Hussein regime in 2003. The rifle also bears a three-letter, non-standard engraving—'YPJ'—on the wooden rear stock, which could indicate that the weapon was at some point in the custody of the Women's Protection Units (Yekîneyên Parastina Jin, or YPJ), operating under the umbrella of the Syrian Democratic Forces (see Figure 28).

Figure 28

A 'YPJ' mark engraved on the rear stock of an AKM assault rifle recovered by local security forces in the aftermath of the Sina'a prison break in January 2022.

Documented by CAR in Hasakeh district, Hasakeh governorate, in March 2022.

Identical rockets and charges manufactured in 2018

Of the 308 documented Bulgarian 40 mm rockets and rocket-expelling charges recovered in the three *inghimasi* seizures (see pages 29–31), 81 per cent (248) were manufactured in 2018 (examples are shown in Figures 29 and 30).[110] Given the date of production—as well as the fact that these items were recovered in locations that had been controlled by the Syrian Democratic Forces from late 2015 to early 2017—it is very unlikely that this materiel was part of 'stay-behind' caches left over by IS forces to sustain a future insurgency after the collapse of the 'caliphate'.[111] The prevalence of these lot numbers was the most significant indicator that the IS cells planning *inghimasi* attacks in Abu Khashab, Sina'a prison, and Qayrawan were linked and used materiel that was most probably supplied to them from a common distribution point.

Figure 29

Bulgarian 40 mm OGi-7MA rockets with the lot number (10)–02–18 in the Abu Khashab (left), Sina'a prison (centre), and Qayrawan (right) *inghimasi* seizures.

Documented by CAR in Qamishli district, Hasakeh governorate, in December 2021 (left); Hasakeh district, Hasakeh governorate, in March 2022 (centre), and Hasakeh district, Hasakeh governorate, in November 2022 (right).

Figure 30

Bulgarian 40 mm PG-7L rockets with the lot number (11)–1–18 recovered from Sina'a prison.

Documented by CAR in Hasakeh district, Hasakeh governorate, in March 2022.

In response to CAR's trace requests, Bulgarian authorities specified that all these rockets and charges were manufactured in 2018 by two major Bulgarian defence manufacturers: Arsenal JSCo, represented by the (10) mark, and Vazovski Mashinostroitelni Zavodi EAD, represented by the (11) mark (see Figures 29 and 30). As Table 8 shows on page 58, these rockets and charges were part of just six lot numbers.

The transfer of this materiel included the splitting of lots among some recipients. This practice, which is common when conventional ammunition is produced in large quantities (see also Table 5 on pages 46–47), reduces the potential for successful tracing, as multiple recipients receive items with the same lot number (CAR, 2020b, p. 14). In this case, as shown in Map 5, Bulgarian authorities authorised the transfer of the rockets and expelling charges to three declared end users—Iraq, Lithuania, and Türkiye. In January 2024, Lithuania confirmed that some of the rockets they received were transferred onwards to Ukraine in March 2022, and that none of the documented rockets could be from Lithuania.[112]

Table 8 also shows that Türkiye was the only recipient of materiel representing each of the lot numbers that CAR investigators documented in the *inghimasi* seizures. There is no evidence to suggest that the items were diverted directly from Turkish custody, nor of any direct supply to IS cells. Two factors suggest that Türkiye may have purchased the rockets to equip the SNA in north-east Syria and that these forces subsequently lost the items from their custody. First, Türkiye was supporting the SNA with weapons around the same time that these transfers from Bulgaria were taking place. Second, SNA-marked weapons featured in the *inghimasi* seizures, as discussed above. As CAR is yet to receive responses to the trace requests issued to Türkiye, it cannot assess the legality of the transfers in question.

Map 5

Number of transfers for traced rockets and expelling charges legally exported by Bulgaria in 2018

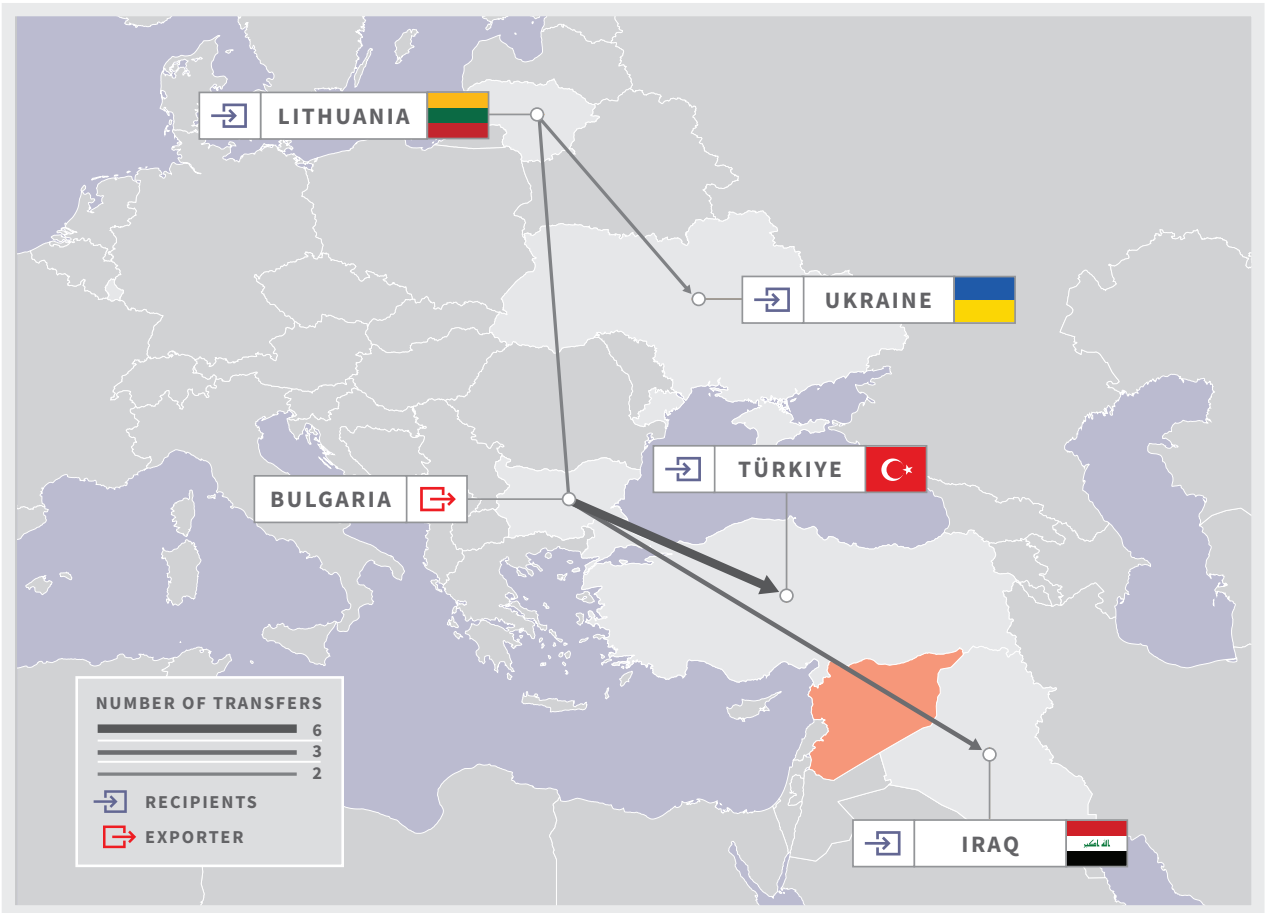


Table 8

Transfers of rockets and expelling charges manufactured by Bulgaria in 2018, by lot number

Quantity	Model	Lot numbers	Traced route
8	OGi-7MA	(10)–01–18[113]	Bulgaria > Turkish Land Forces
85	OGi-7MA	(10)–02–18[114]	Bulgaria > Turkish Land Forces
			Bulgaria > Iraqi Ministry of Defence
93	OGi-7MA	(10)–03–18[115]	Bulgaria > Turkish Land Forces
			Bulgaria > Iraqi Ministry of Defence
3	CP-711	(10)–03–18[116]	Bulgaria > Turkish Land Forces
			Bulgaria > Iraqi Ministry of Defence
4	PG-7L	(11)–1–18[117]	Bulgaria > Turkish Ministry of Defence
			Bulgaria > NATO Support and Procurement Agency > Lithuanian Armed Forces[118] > Ukraine
15	PG-7PL	1–18–(11)[119]	Bulgaria > Turkish Ministry of Defence
			Bulgaria > NATO Support and Procurement Agency > Lithuanian Armed Forces[120] > Ukraine

Lot numbers that were documented in all three of the *inghimasi* seizures.

The large quantity of Bulgarian rockets with similar lot numbers manufactured in 2018 is the starkest example that CAR has documented of IS forces' capacity to access newly produced materiel since they lost territorial control in Iraq and Syria. Unlike other items described in previous sections of this report, these rockets were unlikely to have been opportunistically gathered from multiple local sources. On the contrary, IS cells display a capacity to access significant amounts of ammunition that originated in larger consignments.

THE LARGE QUANTITY OF BULGARIAN ROCKETS WITH SIMILAR LOT NUMBERS MANUFACTURED IN 2018 IS THE STARKEST EXAMPLE THAT CAR HAS DOCUMENTED OF IS FORCES' CAPACITY TO ACCESS NEWLY PRODUCED MATERIEL SINCE THEY LOST TERRITORIAL CONTROL IN IRAQ AND SYRIA.

IS PRODUCTION

At the height of their power, IS fighters were known to produce significant quantities of their own materiel. CAR investigators uncovered new evidence among two of the three *inghimasi* seizures that IS forces—despite their loss of influence and territory—have sustained highly centralised production and distribution of their own materiel.

IED electronic switches and components

In 2016, CAR reported that IS forces were operating a wide range of specialised, centrally coordinated manufacturing plants that were producing weapons, ammunition, and improvised explosive devices (IEDs) to quality-controlled standards (CAR, 2016c, p. 7). Analysis of IED components recovered in Qayrawan in 2022 indicates that, despite their loss of resources, IS forces have maintained centralised IED production and distribution networks.

Alongside the conventional military equipment recovered in Qayrawan, local security forces seized more than 500 electronic switches (see Figure 31). CAR documentation shows that a single cell in Qayrawan had successfully stockpiled a broad range of victim-operated improvised explosive device (VOIED) and radio-controlled improvised explosive device (RCIED) switches of varying sophistication (see Table 9).

CAR INVESTIGATORS UNCOVERED NEW EVIDENCE AMONG TWO OF THE THREE *INGHIMASI* SEIZURES THAT IS FORCES—DESPITE THEIR LOSS OF INFLUENCE AND TERRITORY—HAVE SUSTAINED HIGHLY CENTRALISED PRODUCTION AND DISTRIBUTION OF THEIR OWN MATERIEL.

Figure 31

IED components seized from an IS cell in Qayrawan in September 2022. The cell had planned a complex attack on Al-Hol camp.

Documented by CAR in Hasakeh district, Hasakeh governorate, in November 2022.

Table 9

Electronic IED switches seized in Qayrawan in September 2022

Switch type	Method of operation	Quantity	Details	Example
Passive infrared (PIR) motion sensors	VOIED	77	39 regular and 38 mini PIR motion sensors	
Tilt switches	VOIED	53	48 mercury tilt switches wrapped in 16 packs of three; the 5 remaining tilt switches used a copper spring	
Mobile phone switch	RCIED	384	384 modified mobile phones connected to electrical firing circuits; they were wrapped in 116 packs of three and 18 packs of two, the latter fitted with a mini-PIR sensor	
Radio-controlled switches	RCIED	60	2 distinct types of switches, different in design and construction: 30 'Type 1' radio-controlled receivers and 30 'Type 2' radio-controlled receivers (see pp. X–Y)	
Personal mobile radios	RCIED[121]	3	3 personal mobile radios with batteries and chargers produced by Chinese manufacturers Hytera Communications Corp Ltd (2 sets) and Quanzhou Wouxun Electronics Co. Ltd (1 set)[122]	

In January 2023, local security forces in Raqqa city identified an active IED workshop, which they did not immediately connect with high-profile attacks in the region. They recovered 130 fully assembled and 135 partially assembled switches, along with radios, batteries, printed circuit boards, electric wires, electronic components, and bomb-making equipment (see Figure 32).

According to the local security forces, an IS operative who worked as a gas cylinder repairman in Raqqa city centre had assembled the circuits.[123] No explosive material was seized at the workshop, suggesting that activities such as switch production and explosive management may have been compartmentalised so that they are undertaken in at least two different locations.

CAR documented the materiel from Raqqa city in February 2023 and found that a significant number of radio-controlled switches were identical—in design, construction, and materials employed—to the electronics recovered in Qayrawan. Several other identical switches were recovered from Raqqa and Menbij in 2021 and from Deir-ez-Zor in 2022.

CAR's examination of the devices recovered in Qayrawan and the IED switch workshop in Raqqa shed light on key consistencies that point to a high level of standardisation well after the collapse of the 'caliphate'. The first of these consistencies involved labels that display a common marking practice used to designate a standard kit. Such kits consisted of 1 transmitter, 1 repeater, and up to 6 receivers, with a unique number shared among the devices (see Figure 33). Multiple receivers would allow an IS operative to conduct several attacks using the same transmitter and repeater. CAR previously documented the same IS practice of numbering batches of IED circuits in Iraq and Syria.[124]

Figure 32

Electronic equipment used by a suspected IS operative to assemble IED electronic switches in Raqqa city.

Documented by CAR in Qamishli District in February 2023.

Figure 33

IED components seized in Raqqa in January 2023, grouped into standard kits (1, 2, and 3).

Documented by CAR in Qamishli in February 2023.

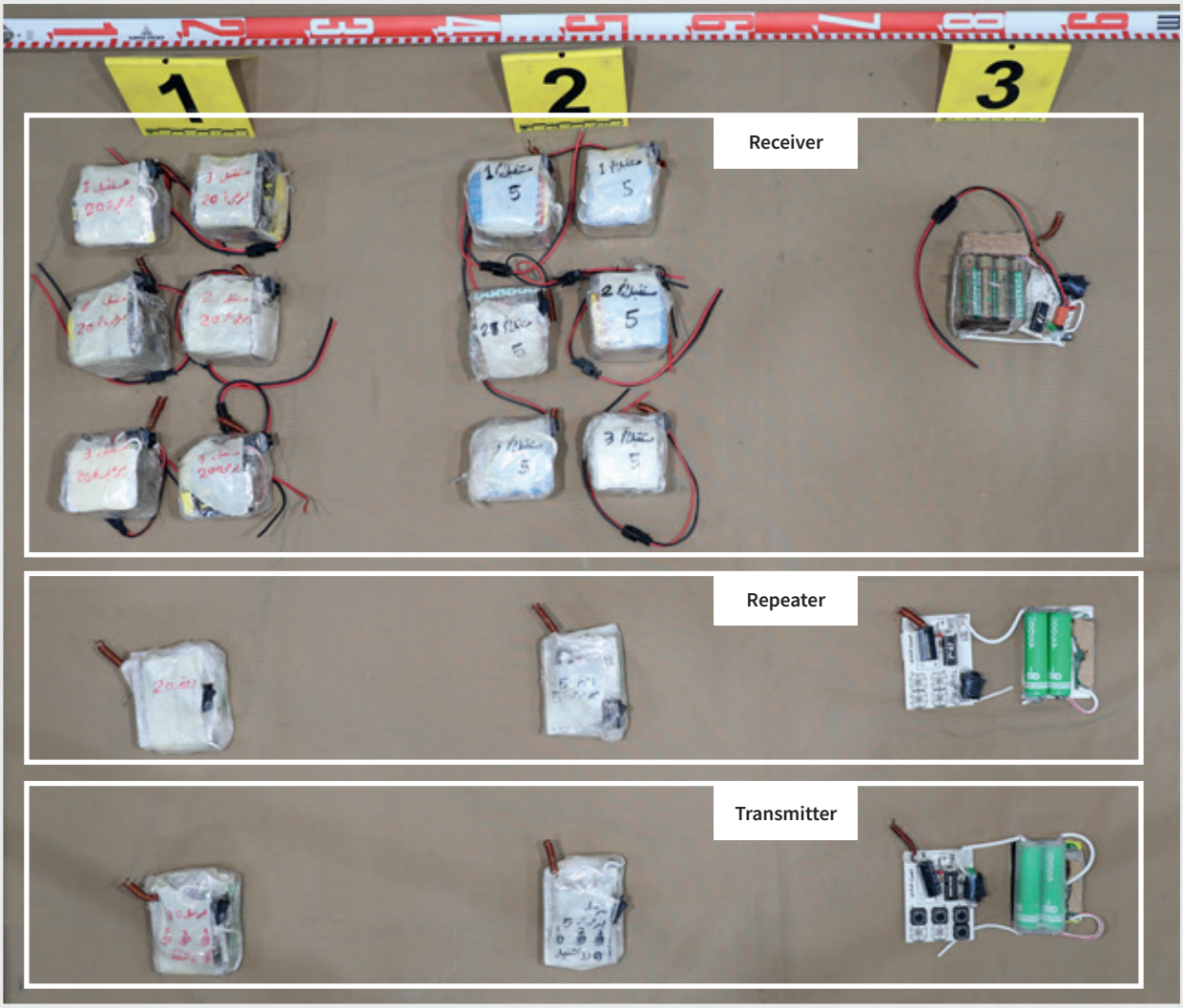


Figure 34

Matching microprocessor and front label markings on RCIED receivers seized in Raqqa in January 2023.

Documented by CAR in Qamishli in February 2023.

IN SOME CASES, THE IDENTICAL MAKE, MODEL, AND LOT NUMBER OF AN ELECTRONIC COMPONENT APPEARED UP TO 350 KM AND MORE THAN A YEAR APART, ILLUSTRATING THE REACH OF THE IS DISTRIBUTION NETWORK.

CAR investigators found another consistency—a serialised mark applied in white pen on the microcontroller—across the majority of analysed receivers (see Figure 34). CAR observed similar markings on microprocessors in transmitters. These marks could indicate that the switches were produced in one location by a single individual.

Another commonality relates to the make and model of electronic receiver components that CAR documented in the Qayrawan seizure. The majority of receivers featured printed circuit boards marked as having been manufactured by Smart House; microcontrollers of the model PIC16F1827, marked Microchip;[125] HFD3/5 signal relays marked Hongfa (see Figure 35);[126] TIP102 transistors marked STMicroelectronics (STM); a 4.5V or 9V power source; copper spring antennas; and rocker switches (see Table 10).

These components are not unique to the Qayrawan seizures—or to the *inghimasi* materiel more broadly. CAR has documented several of these items—including power relays, transistors, microcontrollers, and printed circuit boards—on IED switches recovered across the entire region since 2021: in Qayrawan, the workshop in Raqqa, as well as Deir-ez-Zor, Menbij, and Raqqa (district). In some cases, the identical make, model, and lot number of an electronic component appeared up to 350 km and more than a year apart, illustrating the reach of the IS distribution network.

Table 10

Identical models of electronic components, documented in north-east Syria, 2021–23

Items with identical lot numbers documented in multiple locations are noted in the relevant cells.

Documentation		Component			
Location	**Date**	**Hongfa HFD3/5 signal relay[127]**	**STM TIP102 transistor**	**Microchip PIC16F1827 microcontroller**	**Smart House E646 printed circuit board**
Raqqa (workshop)	2023	XQ0902	CCOXC MAR 1808		
Qayrawan	2022	XQ0902, XR0505	CCOXC MAR 1808		
Deir-ez-Zor	2022	XR0505			
Raqqa (district)	2021	XR0505	CCOXC MAR 1808		
Menbij	2021	XR0505			
Total number of locations		**5**	**5**	**3**	**2**

Item found at the location No items found

Figure 35

Hongfa signal relay model HFD3/5 with the lot number XR0505, documented in four separate seizures: in Raqqa (October 2021, top-left), Deir-ez-Zor (June 2022, top-right), Menbij (October 2021, bottom-left), and Qayrawan (November 2022, bottom-right).

Two distinct packaging methods and handwriting styles are prevalent on the IED switches documented since 2021. 'Type 1' transmitters and repeaters are packaged using heat-shrink plastic; these devices are labelled using a thin blue or black pen on a small rectangular piece of masking tape (see Figure 36). 'Type 2' transmitters and repeaters are packaged using cellophane; these devices are labelled using a thick black or red marker on a large piece of masking tape covering the entire front side (see Figure 37).

For this report, CAR asked a forensic expert to review 151 labels from seized IED switches across north-east Syria.[128] The expert determined that one person probably wrote at least 20 labels on 'Type 1' receivers recovered in Al-Hol, Menbij, Raqqa, and Tabqa districts in 2021, as well as in Qayrawan in 2022 (see Figure 38). Another individual probably wrote at least 30 labels on 'Type 2' receivers captured in Karama and Qayrawan in 2022 (see Figure 39).[129] Table 11 presents the key handwriting features identified in this analysis. Qayrawan is the only location where both types of switches were recovered, meaning that at least two distinct workshops were working there in parallel, or that one bomb maker replaced another to ensure continuity of the IS supply network.

Figure 36

'Type 1' transmitter (left) and repeater (right), recovered by local security forces in Menbij (right) and Tabqa (left) in 2021. The items are packaged in heat-shrink plastic and labelled with a thin blue or black pen on a small rectangular piece of masking tape.

Documented by CAR in Menbij and Tabqa in September 2021.

Figure 37

'Type 2' transmitter (left) and repeater (right), recovered by local security forces in Qayrawan in 2022. The items are packaged in cellophane and labelled with a thick black or red marker on a large piece of masking tape covering the entire front side.

Documented by CAR in Hasakeh district, Hasakeh governorate, in November 2022.

Figure 38

Similar handwriting on 'Type 1' receiver labels recovered in 2021–22 in five locations (left to right): Menbij, Tabqa, Raqqa, Al-Hol, and Qayrawan.

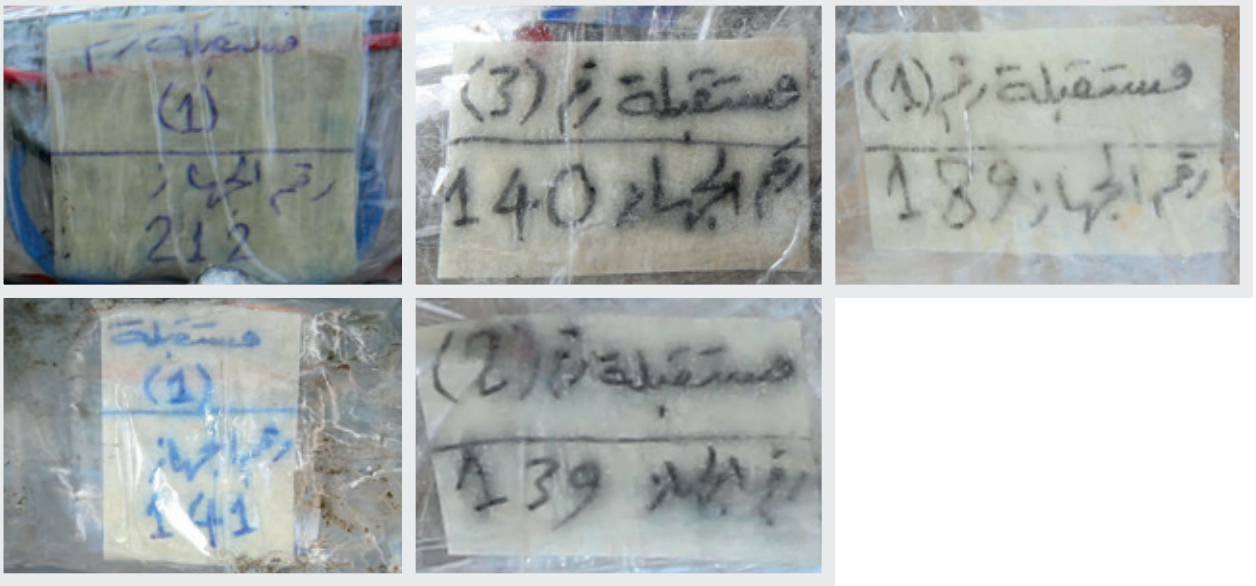
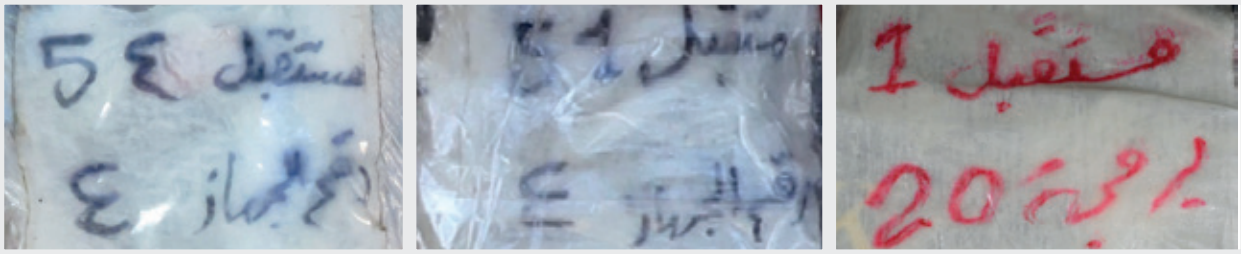


Figure 39

Similar handwriting on 'Type 2' receiver labels recovered in 2022 in Karama (left) and Qayrawan (centre). These samples exhibit some similarities with the handwriting at right, which was seized from the IED switch workshop in Raqqa.



Taken together, the above-mentioned commonalities of IED components recovered in north-east Syria and assembled to defined standards support the argument that the IED switches stockpiled by IS fighters in places such as Qayrawan were manufactured in centralised locations and share a common supply chain. Tracing the supply of electronic components used in IEDs is challenging, however, as the majority are widely available commercially and not subject to export controls.

In response to a CAR trace request, Hongfa Europe GmbH affirmed that it is not the manufacturer of relays but simply the seller of these goods; as these items lack serial numbers and are sold worldwide to an uncontrolled distribution network, they are untraceable.[130] In addition, many of the microcontrollers and almost all the documented transistors produced by other manufacturers were confirmed to be counterfeit, including six different lot numbers for semiconductors traced with the manufacturer STM.[131] This amount is unusually high, considering that STM estimates the counterfeit semiconductor industry represents between 1 and 3 per cent of the market size (CAR, 2017, p. 142).

One of CAR's observations may help to shed some light on a possible supply route. A number of radios produced by Quanzhou Wouxun Electronics Co. Ltd.—1 recovered in Menbij in 2021, 1 in Qayrawan in 2022, and 4 in the Raqqa workshop in 2023—all displayed a mark reading 'NOOR Electronics Sarmada/Syria' (see Figure 40). Noor Electronics is an electronics shop that sells imported items in the town of Sarmada in Idlib governorate, north-western Syria.[132] Sarmada became the main commercial hub linking north-western Syria to Turkish and global markets soon after the beginning of the Syrian conflict in 2011 (Tokmajyan and Khaddour, 2021). Today, Sarmada and the border crossing are under the control of the Islamist opposition group Hay'at Tahrir al-Sham, formerly known as Jabhat Al-Nusra. Noor Electronics has not responded to a request for information from CAR.[133]

Table 11

Forensic handwriting comparison between 'Type 1' receivers documented in 2021–22 and 'Type 2' receivers documented in 2022–23

Feature	Comment
Position of ا and ل in the word لجهاز	In Type 1 the ا is usually low relative to the ل. In Type 2 the ا is at the same level as the ل. The ل in Type 2 also has a distinct horizontal component before it joins the medial ج. This is not as distinct in Type 1.
The form of the medial ج in لجهاز.	In Type 1 this letter is generally relatively long and thin; in Type 2 it is shorter and fatter.
The form of the medial ه in لجهاز.	In Type 1 this letter is longer and thinner than it is in Type 2, where it is normally shorter and broader.
The letters ر and ز.	In Type 1 these letters tend to be straighter and more horizontally aligned, while in Type 2 they are more vertical, with a curve at the bottom.
Numeral 2	The numeral tends to be taller and thinner in Type 1 but shorter and broader in Type 2.

Figure 40

Personal mobile radios produced by Chinese manufacturer Wouxun and imported into north-western Syria by NOOR Electronics. Recovered in Menbij in 2021 (left), Qayrawan in 2022 (centre), and Raqqa in 2023 (right).

Documented by CAR in Menbij in April 2021, Hasakeh in November 2022, and Qamishli in February 2023.

Standardised production of sound suppressors

In addition to the large cache of conventional equipment recovered after the Sina'a prison break in January 2022, local security forces captured 426 fabricated sound suppressors during neighbourhood raids in the days following the IS operation. Upon examination, CAR identified four different models of carefully packaged sound suppressor (see Figure 41). Local security forces recovered a further 65 sound suppressors during the Qayrawan seizure in September 2022. The items were found without packaging and came in 13 different models (see Figure 42).

In its global operations, CAR has rarely encountered fabricated sound suppressors; the ones that it did document were often associated with individual weapons in the Middle East

Figure 41

Four different models of packaged sound suppressor, recovered by local security forces in and around Sina'a prison in January 2022.

Documented by CAR in Hasakeh district, Hasakeh governorate, in March 2022.

and the Gulf. The presence of large numbers of sound suppressors, especially in these two related seizures, is thus noteworthy. It indicates that they were probably intended for distribution to local IS cells for use in terrorist or insurgent activities in which concealment was valued over the deterrent effect of a non-supressed firearm.

The sound suppressors seized in both the Sina'a prison and Qayrawan seizures were stamped with individual serial numbers consisting of a single letter followed by three digits ('A111' pattern). Suppressors marked with the same first letter represent a specific model, sharing identical dimensions and a particular calibre. Investigators identified models L, M, N, and S/H in both seizures (see Table 12). Models F, K, R, and X were unique to the Qayrawan seizure, while the remaining five models were not marked. Two models—L and N—could be screwed onto the threaded barrel of an AK-pattern rifle (Figure 43).

Table 12

Technical specifications of sound suppressor models recovered in Sina'a prison and Qayrawan seizures

Model	Body length	Body diameter	Number of baffles	Baffle diameter	Thread	Compatible Weapon
L	225 mm	40 mm	8	35 mm	Protruding	AK-pattern rifle
M	298–300 mm	50 mm	Unknown	45 mm	Flush	N/A
N	196–200 mm	50 mm	7	45 mm	Flush	AK-pattern rifle
S/H	163 mm	40 mm	6	35 mm	Flush	N/A

Figure 42

Thirteen different models of sound suppressor, recovered by local security forces in Qayrawan in September 2022 and documented by CAR in November 2022.

Documented by CAR in Hasakeh district, Hasakeh governorate, in November 2022.

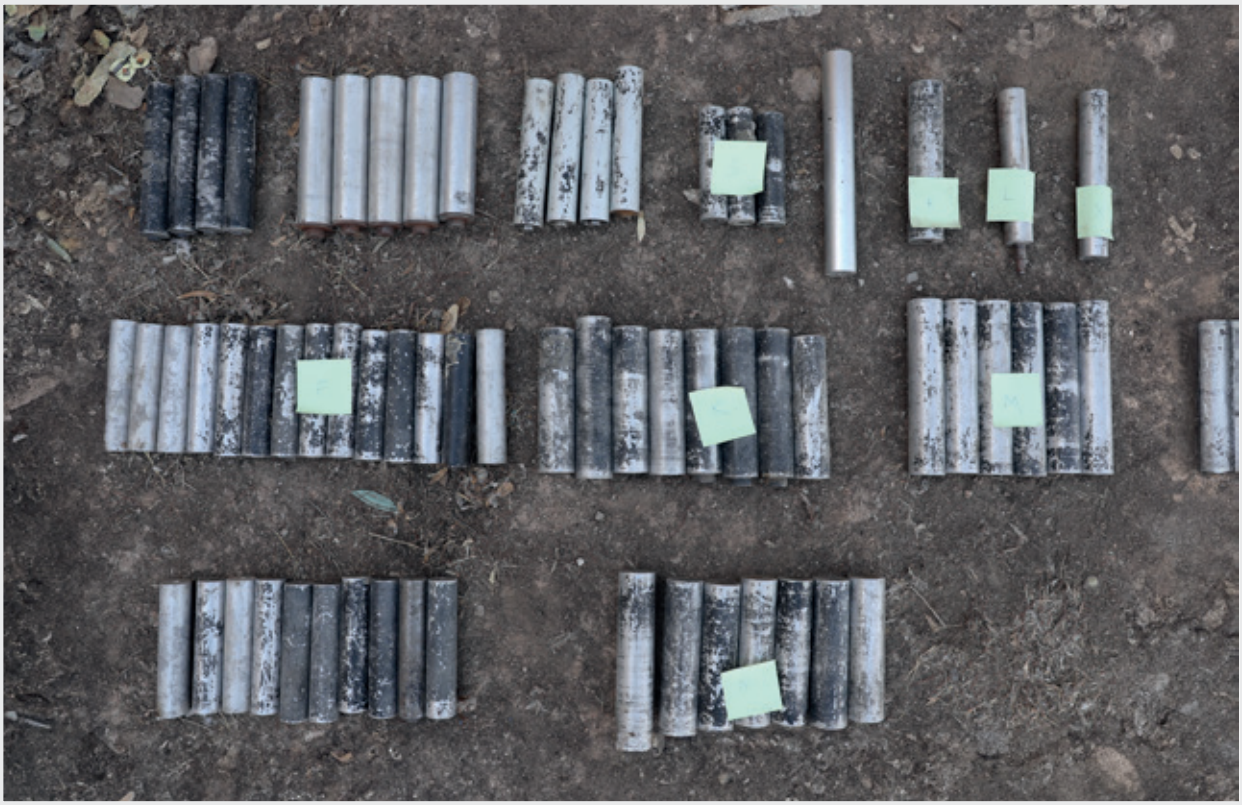
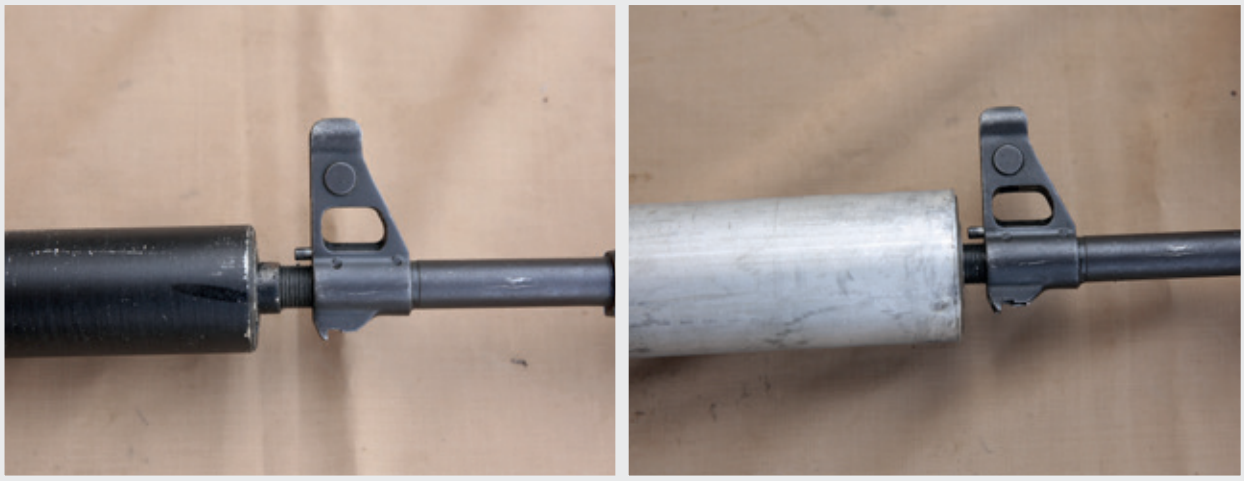


Figure 43

Model L (left) and N (right) sound suppressors screwed on the threaded barrel of an AK-pattern rifle.



The suppressors documented in the Sina'a prison seizure were all wrapped in bundles of ten. The serial numbers on the suppressors were in close sequence (within a range of 20–30 digits) in every documented bundle (see Figure 44). The closeness of these numbers, assuming that they were marked sequentially, points to a centralised method of record-keeping and distribution. It also suggests that IS forces manufactured the sound suppressors locally and on a semi-industrial scale. As early as 2015, IS-affiliated media had released instructional videos on how to manufacture identically-appearing sound suppressors (see Figure 45).

Figure 44

A bundle of Model L sound suppressors with closely related serial numbers, seized by local security forces in the aftermath of the Sina'a prison break in January 2022. Documented by CAR in Hasakeh district, Hasakeh governorate, in March 2022.

Documented by CAR in Hasakeh district, Hasakeh governorate, in November 2022.

Figure 45

A workshop for manufacturing sound suppressors and internal components, seen in an instructional video published by IS in Baghdad in 2015 (Source: Calibre Obscura, 2018a).

The sound suppressors employ stacked internal 'baffles' to delay the gas flow from the muzzle, reducing velocity and pressure. This results in a reduction of the acoustic pressure level, therefore reducing the sound, signature, and recoil of the firearm. The internal structure of the suppressors was a combination of stacked baffles, sprung spacer housings, end caps, and spacers (Figure 46). One of the suppressors had its spacer housing lined with steel wool (Figure 47). This may either be to further reduce the sound, or an attempt to reduce the smoke signature emitted from the first shot.

Figure 46

Sprung spacer housing, end cap and eight stacked baffles (left) in sound suppressor L498.

Documented by CAR in Hasakeh district, Hasakeh governorate, in November 2022.

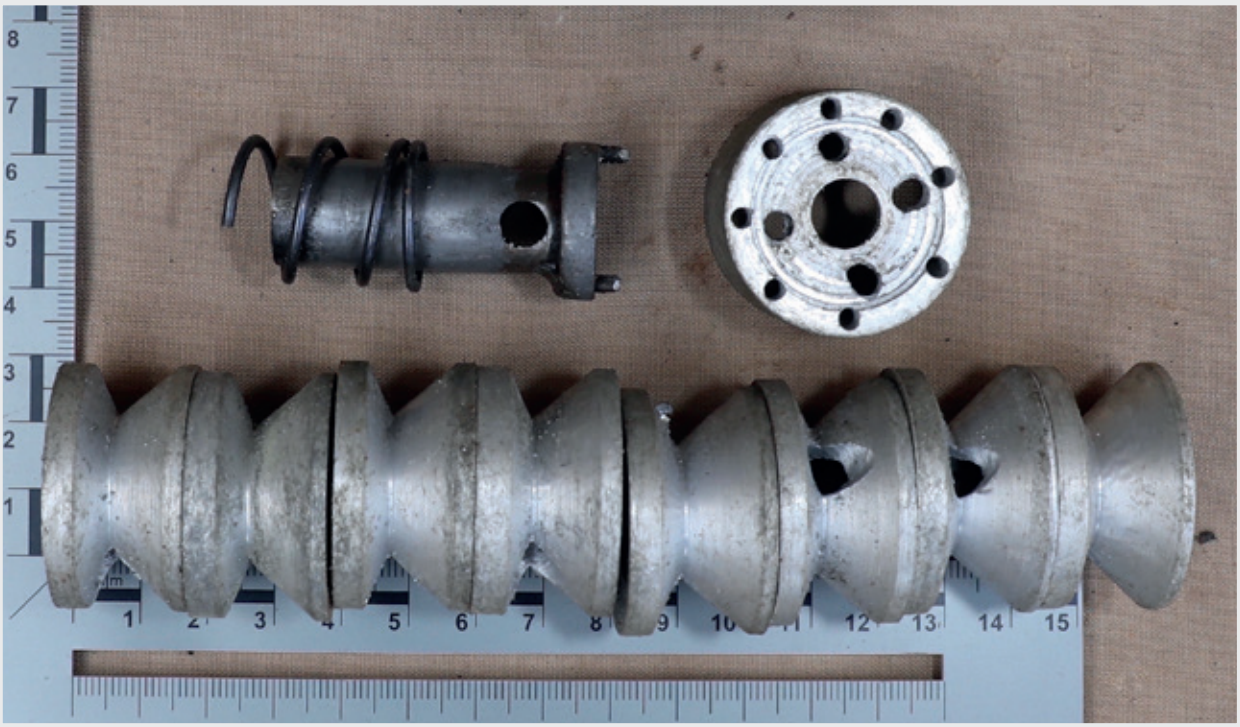
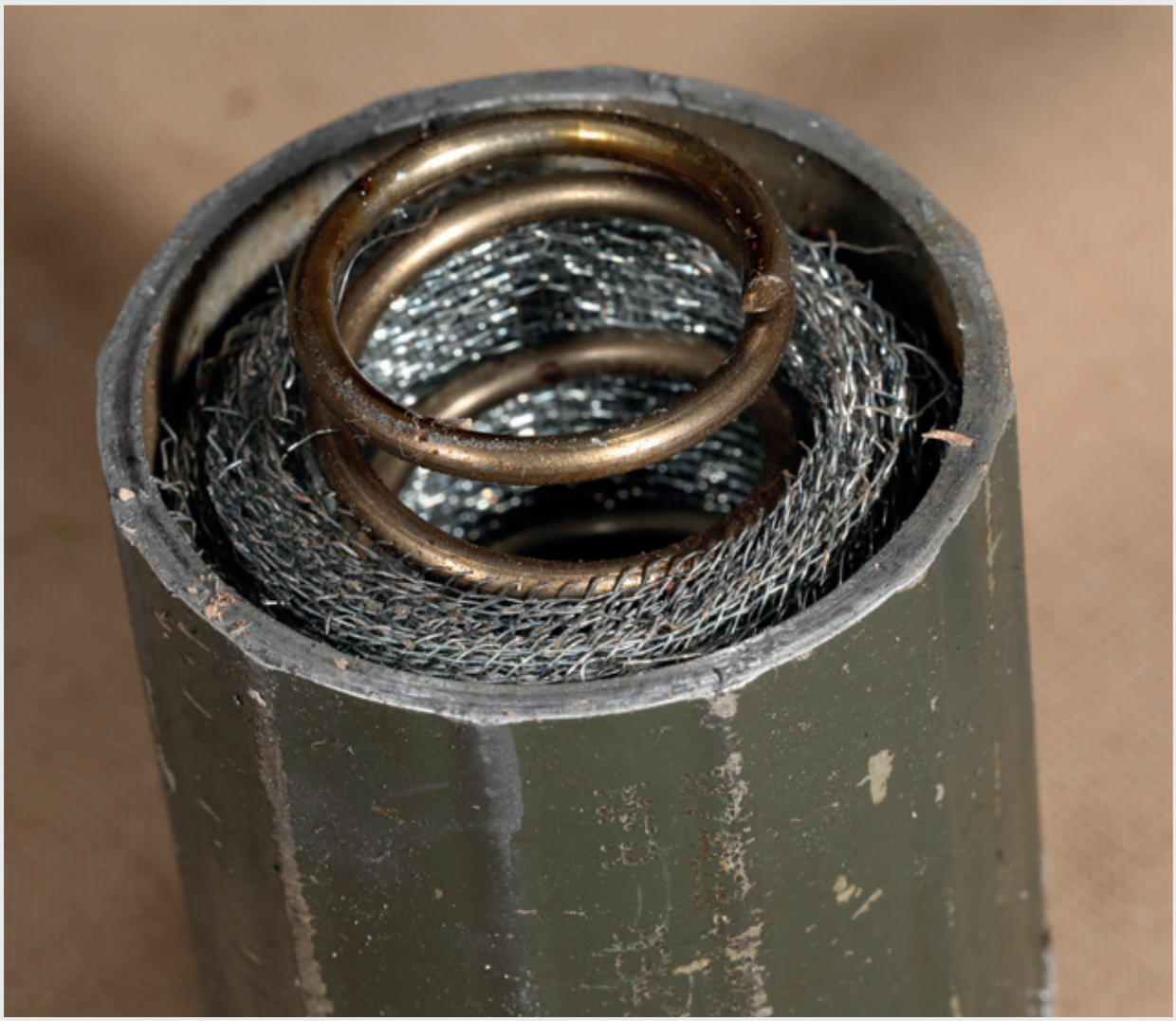


Figure 47

Spacer housing of sound suppressor M328 lined with steel wool.

Documented by CAR in Hasakeh district, Hasakeh governorate, in November 2022.



The standardised construction, packaging and marking practices of documented sound suppressors indicates they were locally manufactured on a semi-industrial scale. In 2017, following a three-year investigation into the weapons held by IS forces at the height of the 'caliphate', CAR concluded that the group had significant weapon manufacturing capabilities that were connected through a centrally managed network of factories and workshops (CAR, 2017). More than six years later, IS forces remain proficient at procuring and moving large quantities of sophisticated and standardised sound suppressors. Moreover, they still maintain a distribution network capable of supplying operational IS cells planning high-profile attacks in north-east Syria.

MORE THAN SIX YEARS LATER, IS FORCES REMAIN PROFICIENT AT PROCURING AND MOVING LARGE QUANTITIES OF SOPHISTICATED AND STANDARDISED SOUND SUPPRESSORS.

CONCLUSION

The Syrian conflict has created a complex and diverse weapon landscape. Numerous local, regional, and international channels have been supplying Syria's conflict actors since 2011, making it extremely difficult to identify specific weapon acquisition networks.

CAR's field research in Iraq and Syria over the past decade has generated what is probably the largest public data set of illicit weapons, ammunition, and related materiel recovered from IS forces. Long-term documentation of this equipment is key to understanding how the group's tactics, techniques, and procedures have evolved over time, from the period of widespread territorial control and power to one of collapse. Profiling recent *inghimasi* attacks can help security forces and researchers to recognise the current hallmarks of top-tier IS operatives conducting high-profile strategic attacks, particularly compared to CAR's ongoing documentation of materiel recovered from lower-tier IS cells or suspected affiliates operating on the periphery.

The most significant finding presented in this report is that IS forces appear to have been able to retain a centralised weapon acquisition, supply, and distribution system, even after its loss of territorial control. Despite concerted efforts by local and coalition forces in north-east Syria to destroy this capacity, the group has proven itself capable of pivoting, by drawing on its 'caliphate'-era stockpiles, locating new paths for acquisition, and developing workshops for fabricating lethal equipment. Intensive monitoring of the ways in which IS forces adapt to changing circumstances can support efforts to degrade their ability to carry out major, complex attacks, such as the one at Sina'a prison. Detention centres are likely to remain obvious targets for future attacks, as IS fighters attempt to free more members.

Overall, however, the profile of recently planned and staged *inghimasi* attacks testifies to progress in efforts to restrict access to sensitive materiel and reduce the risk of its diversion to IS cells in north-east Syria. CAR's

IS FORCES APPEAR TO HAVE BEEN ABLE TO RETAIN A CENTRALISED WEAPON ACQUISITION, SUPPLY, AND DISTRIBUTION SYSTEM, EVEN AFTER ITS LOSS OF TERRITORIAL CONTROL.

◀ **Restored ancient mosaic, vandalised by ISIS, in Raqqa Museum, Raqqa, north-east Syria, November 2023.**

▲ Small-calibre ammunition from the Abu Khashab seizure, December 2022.

analysis shows that IS forces appear to be heavily reliant on stockpiles accumulated during the height of the 'caliphate'; indicative of effective local and regional counter-diversion measures, especially in the absence of new or sophisticated weaponry. Likewise, the absence of evidence that IS forces are acquiring new explosive material, such as detonators and detonating cord, is a notable finding. That absence also speaks directly to the value of field-based end-use monitoring to identify and alert manufacturers to the diversion of their products.

At the same time, this assessment underscores the longevity of materiel supplied to armed opposition groups since 2012 and as far back as 2003, providing a stark reminder that such equipment can find its way to terrorist actors, thereby fuelling further insecurity and cycles of violence. This report also demonstrates that IS forces remain adept at maximising the efficacy of their resources in north-east Syria, at least with respect to priority cells involved in high-level attacks. This research indicates that they are likely to continue to adapt their approach in response to pressures applied by local security forces and international actors. The documentation and tracing of the recovered *inghimasi* materiel has provided direct insight into the changing nature of these acquisition routes and distribution networks, for example by exposing apparent predation of other armed groups in the region like the Syrian National Army.

Moreover, CAR's expanding database has allowed investigators to draw out cross-regional connections between different groups over time, including on the basis of techniques for obliterating traceable marks on 56-series assault rifles recovered in north-east Syria, yet first documented by CAR in West Africa. This report also fills critical knowledge gaps regarding the evolution of IED production in the region, which can inform efforts to disrupt the complex acquisition networks of IS forces. In Syria as elsewhere around the world, CAR's global operations can help to identify markers of diversion and create early warning systems for locating and identifying illicit supply chains.

THIS REPORT ALSO DEMONSTRATES THAT IS FORCES REMAIN ADEPT AT MAXIMISING THE EFFICACY OF THEIR RESOURCES IN NORTH-EAST SYRIA.

ANNEX 1
MATERIEL RECOVERED IN THE *INGHIMASI* SEIZURES, 2021-22

Type			Calibre	Seizure 1: Abu Khasab	Seizure 2: Sina'a prison	Seizure 3: Qayrawan
Weapons	Assault rifles	AK-pattern	7.62 × 39 mm	37	124	56
		M16-pattern	5.56 × 45 mm	0	1	0
		Magazines	7.62 × 39 mm	194	659[134]	590
	Machine guns		12.7 × 108 mm	0	2[135]	0
			7.62 × 39 mm	0	1	0
			7.62 × 54 mm R	2	13	0
	Shoulder-fired rocket launchers		40 mm	1	7	0
	Other weapons	Battle rifles	7.62 × 51 mm	0	0	1
		Anti-materiel rifles	Unconfirmed	0	7	0
		Designated marksmen rifles	7.62 × 54 mm R	0	5	0
		Bolt-action rifles	7.5 × 54 mm	0	1	0
			7.62 × 54 mm R	0	1	0
			7.92 × 57 mm	0	2	0
		Shotguns	12-gauge	0	10	0
Ammunition	Rockets	Rockets	40 mm	42	74	192
		Expelling charges	40 mm	41[136]	77	178[137]
	Grenades	Hand grenades		62	56	15
		Rifle grenades	40 mm	2	0	0
		Fuzes	N/A	0	39	1
	Mortar round		120 mm	1	0	0
	Small-calibre ammunition		7.62 × 39 mm	5,663	1,548	198
			7.62 × 54 mm R	692	0	3,940
			5.56 × 45 mm	0	0	500
			12.7 × 108 mm	0	0	79
			Total documented	6,355[138]	1,548[139]	4,717[140]
	Disposable rocket launcher		66 mm	0	0	1
IED-related materiel	Detonating cord spools		N/A	0	45	1 spool and 11 bundles
	Detonators		N/A	0	2,000	6,000
	Explosive vests		N/A	11	0	0
	Safety fuze spools		N/A	0	2	0
	Switches		N/A	0	0	508
Vehicles and accessories	Hydration packs		N/A	23	0	0
	Sound suppressors		N/A	0	426	65
	Vehicles		N/A	0	0	3

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ENDNOTES

1 'Coalition forces' refers to a broad international coalition announced by the United States in 2014 to defeat IS fighters. France, the United Kingdom, and the United States were the main military contributors to coalition forces in north-east Syria.

2 The 2012–13 IS "Breaking the Walls" campaign resulted in a series of successful prison breaks in Iraq that freed hundreds of militants. Since the fall of the 'caliphate', IS forces have renewed their calls for the breach of detention facilities holding IS members and affiliates, both to replenish their ranks and to score propaganda victories (Clifford and Weiss, 2020).

3 In cases where investigators were unable to document each individual cartridge, they instead took representative samples of the full amount of ammunition on site. Although CAR investigators observed 28,000 rounds in total, they physically documented a sample total of only 21,000 individual rounds and associated markings. Statistics provided in this report use CAR's data set until the end of 2022 and do not include data from 2023.

4 CAR's baseline documentations took place in 2014–15 in Syria and in 2014–17 in Iraq.

5 SDF Press Center (2021).

6 According to the US Defense Intelligence Agency, some 3,000 to 5,000 IS fighters are detained at the Sina'a prison (DoD IG, 2020, p. 61).

7 A platoon is a military unit typically composed of 20–50 individuals.

8 The 41 items include 10 expelling charges attached to 10 rockets.

9 CAR documented 6,355 of the total number of rounds present.

10 Of the 659 magazines, 195 were loaded with ammunition.

11 CAR documented 1,549 of the total number of rounds present.

12 Of the 178 expelling charges, 170 were attached to rockets.

13 CAR documented 4,717 of the total number of rounds present.

14 The Sina'a prison seizure exhibited a greater variety of models than the other two, probably because it included weapons seized from various raids and operations in Hasakeh city in the days following the initial prison attack.

15 CAR was able to identify the calibre of 264 of the recovered weapons.

16 On 9 January 2024, the Government of Hungary responded to a formal trace request issued by CAR on 25 October 2023. This response confirms that: 1) the current holder of the Fegyver- és Gépgyár (FÉG) brand, FÉG Defense Systems Inc. and the Hungarian export licencing authority have no records of the AK-63F assault rifle bearing the serial number 'I 13309', the subject of CAR's trace request; 2) FÉG Defense Systems Inc. conducted a technical analysis of the item and concluded that the rifle was assembled with mixed parts:

a) the [primary traceable component] forward trunnion, the receiver (marked with Hungarian fire selector marks' '∞/1'), the rear trunnion, the receiver cover, the barrel, the gas tube, the pistol grip, upper handguard, the bolt carrier, and the recoil-spring guide are of Hungarian manufacture;

b) the rear sight, lower handguard, and the bolt are not of Hungarian manufacture;

and c) the receiver plate bears a triangle mark indicating possible export to Iraq, however as there are no records of the serial numbers, including the additional serial numbers 'L 46151' marked on the top cover and 'EZ 4322' on the bolt carrier, neither the Government of Hungary nor FÉG Defense Systems Inc. were able to provide details regarding the export of the item.

17 In Iraq in 2017, CAR documented rockets that were produced by a variety of manufacturers and packed identically, in heat-sealed polyethylene bags. See CAR (2017, p. 49).

18 CAR is yet to receive a response to trace requests issued for these items. In the absence of a trace response, CAR cannot assess the legality of the transfer(s) in question.

19 On 5 May 2023, the Government of Romania responded to a formal trace request issued by CAR on 12 April 2023. This response confirms that:

1) Cugir Factory manufactured the AKMS assault rifle bearing the serial number 'AR 2024 1988', the subject of CAR's trace request, in 1988; 2) taking into consideration that the rifle was manufactured more than 30 years ago, the producer could not provide details regarding the export of this item; and 3) the Romanian Department for Export Controls additionally noted that some parts and components of the weapon have been replaced (including the bolt carrier, bolt, return spring guide, and top cover).

20 CAR is yet to receive a response to trace requests issued for these items. In the absence of a trace response, CAR cannot assess the legality of the transfer(s) in question.

21 Of these rockets, 180 were attached to an expelling charge.

22 From 1965 to 1975, the US Army Ordnance Department used the lot code 'AA-XX-XXX' (where A represents a letter and X represents a digit), based on MILSTD-1168, a set of standard codes for munitions identification used by the US Army Ordnance Department (MIL-STD-1168 Ammunition Lot Numbering and Ammunition Data Card). The documented hand grenades fit this pattern and were thus probably produced at some point between 1965 and 1975. CAR is yet to receive a response to trace requests issued for these items. In the absence of a trace response, CAR cannot assess the legality of the transfer(s) in question.

23 CAR is yet to receive a response to trace requests issued for these items. In the absence of a trace response, CAR cannot assess the legality of the transfer(s) in question.

24 On 31 August 2023, the Government of Bulgaria responded to a formal trace request issued by CAR on 22 March 2023. This response confirms that: 1) Arsenal JSCo manufactured the CP-711 expelling charge bearing the lot number '[10 in double circle]-03-18', the subject of CAR's trace request, in 2018; 2) the CP-711 expelling charges bearing the lot number '[10 in double circle]-03-18' were contained in OGi-7MA rockets bearing the lot numbers '[10 in double circle]-02-18' and '[10 in double circle]-03-18'; and 3) the Government of Bulgaria authorised the export of the item, as part of a larger consignment of OGi-7MA to two recipients:

- the Turkish Land Forces, the declared end-user, under a permit issued in 2018;
- and Ministry of Defense of Iraq, the declared end-user, under a permit issued in 2018.

25 All of these rockets were documented attached to expelling charges.

26 On 31 August 2023, the Government of Bulgaria responded to a formal trace request issued by CAR on 22 March 2023. This response confirms that: 1) Vazovski Mashinostroitelni Zavodi (VMZ) EAD manufactured the PG-7L grenade bearing the lot number '[11 in double circle]-1-18', the subject of CAR's trace request, in 2018; and 2) the Government of Bulgaria authorised the export of the item, as part of a larger consignment of PG-7VL to two recipients:

- the Ministry of National Defense of Turkey, the declared end user, under a permit issued in 2018;
- and the Lithuanian Armed Forces, the declared end user, brokered by the NATO Support and Procurement Agency, under a permit issued in 2018.

On 2 January 2024, the Government of Lithuania responded to a formal trace request issued by CAR on 5 October 2023. This response confirms that: 1) the Lithuanian Armed Forces purchased the Bulgarian-manufactured PG-7L grenades bearing the lot number '[11 in double circle]-1-18', the subjects of CAR's trace request, in 2018; and 2) in March 2022, some of these items were delivered to Ukraine via a logistics centre in Poland (Polloghub, Rzeszów-Jesionka), for military aid; and 3) the remaining items could not be the ones documented by CAR in March 2022 in Northeast Syria.

27 Similarly in CAR's 2017 report on the weapons and ammunition held by IS forces in Iraq and Syria, investigators note that "NATO-calibre weapons and ammunition are far less prevalent, comprising 3 per cent and 13 per cent of the total, respectively; although these proportions are low, IS forces captured significant quantities of NATO weaponry during initial assaults on Iraqi forces in 2014" (CAR, 2017, p. 5).

28 For a complete identification guide to weapons manufactured in North Korea, see CAR (2023c).

29 Ramani (2018) provides insight into North Korean support for Syria: 'Since the 1960s, North Korea has maintained a small-scale military footprint in Syria […]. North Korean engineers have also assisted the Syrian military's modernization efforts.' From the late 1970s, North Korea sold Syria a myriad of systems, including small arms, ammunition, armoured vehicles, and anti-tank missiles (Berger, 2016, p. 64). Similar North Korean

support in producing AKM-pattern rifles is well documented in Ethiopia (p. 115).

30 CAR was not able to identify the origin of the other six spools because of the lack of verifiable markings.

31 CAR previously investigated all manufacturers in Table 4 except for SUA Explosives & Accessories.

32 The six other identified manufacturers were previously investigated as part of CAR (2016a).

33 Some of these lots were connected to those traced for CAR (2020a).

34 CAR is yet to receive a response to a trace request issued for this item. In the absence of a trace response, CAR cannot assess the legality of the transfer(s) in question.

35 CAR documented an additional 11 bundles of loose detonating cord measuring approximately 50 m each and bearing the mark 'Solar Industries India' as part of the Qayrawan seizure.

36 On 19 July 2022, Solar Industries India Limited responded to a formal trace request issued by CAR on 21 June 2022. This response confirms that: 1) Solar Industries India Limited manufactured the Solar Cord-II bearing the case number '11503', the subject of CAR's trace request, in September 2013, in India; 2) Solar Industries India Limited sold the item to Ilci Patlayici Madde San. Tic. A.s., (Eskisehir Yolu 9. Km. Dumlupinar Bulvari No. 266, Tepe Prime B Blok No. 79 06800, Cankaya, Ankara, Turkey) as part of an order of 1,000,000 metres of SOLAR CORD-II; 3) the Petroleum and Explosives Safety Organisation, Government of India, issued the export license under export licence numbers E25(37)53/2009/09 and E25(37)53/2009/46; and 4) Noble Shipping PVT. LTD. transported the consignment on the MV Danica Brown from the port of Mumbai (India) to the port of Denrice (Turkey) on 1 October 2013. Solar Industries India Limited included a copy of the bill of lading, commercial invoice, inspection and quality assurance reports, and batch details in its response to CAR.

On 19 July 2022, Solar Industries India Limited responded to a formal trace request issued by CAR on 21 June 2022. This response confirms that: 1) Solar Industries India Limited manufactured the SOLAR

CORD-II bearing the case number '4864', the subject of CAR's trace request, in September 2013, in India; 2) Solar Industries India Limited sold the item to Ilci Patlayici Madde San. Tic. A.s., (Eskisehir Yolu 9. Km. Dumlupinar Bulvari No. 266, Tepe Prime B Blok No. 79 06800, Cankaya, Ankara, Turkey) as part of an order of 1,000,000 metres of SOLAR CORD-II; 3) 3) the Petroleum and Explosives Safety Organisation, Government of India, issued the export license under export licence numbers E25(37)53/2009/09 and E25(37)53/2009/46; and 4) Noble Shipping PVT. LTD. transported the consignment on the MV Danica Brown from the port of Mumbai (India) to the port of Denrice (Turkey) on 1 October 2013. Solar Industries India Limited included a copy of the bill of lading, commercial invoice, inspection and quality assurance reports, and batch details in its response to CAR.

On 19 July 2022, Solar Industries India Limited responded to a formal trace request issued by CAR on 21 June 2022. This response confirms that: 1) Economic Explosives Limited, a subsidiary of Solar Industries India Limited, manufactured the Solar Cord-II bearing the case number '5809', the subject of CAR's trace request, in 2015; 2) Solar Industries India Limited sold the items to Solar Patlayıcı Maddeler San. A.Ş. (Eskisehir Yolu 9. Km. Dumlupinar Bulvari No. 266, Tepe Prime B Blok No. 79 06800, Cankaya, Ankara, Turkey) as part of an order of 500,00 metres of SOLAR CORD-II; and 3) the items were transported on the MV Danica Brown from the port of Mumbai (India) to the port of Denrice (Turkey) through carrier United Liner Shipping Services LLP on 28 March 2015. Solar Industries India Limited included a copy of the bill of lading, commercial invoice, inspection and quality assurance reports, and batch details in its response to CAR.

37 CAR is yet to receive a response to trace requests issued for these items. In the absence of a trace response, CAR cannot assess the legality of the transfer(s) in question.

38 On 19 July 2022, Solar Industries India Limited responded to a formal trace request issued by CAR on 21 June 2022. This response confirms that: 1) Solar Industries India Limited manufactured the Solar Cord-III bearing the case number '67[illegible]', the subject of CAR's trace request, in December 2012; 2) Solar Industries India Limited exported the item to Maybel Co. Sarl (Beirut, Lebanon), through the buyer Mining Services Overseas (Off Shore, Sal (Mso), Hamara Street, Strand Building, 1st Floor, Beirut, Lebanon; 3) the item was sold as part of a consignment of 500,000 metres of SOLAR CORD-III; 4) Mining Services Overseas purchased the items on 9 November 2012; and 5) the items were transported on the

MV BBC Pacific from the Port of Mumbai (India) to the port of Beirut (Lebanon) on 22 January 2013. Solar Industries India Limited included a copy of the purchase order, export permit, bill of lading, inspection and quality assuranc e reports, and invoice in its response to CAR. Solar Industries India Limited additionally informed CAR that given the absence of a full and complete case number, no proper identification is possible and therefore the response provided is concluded from the date of manufacture.

On 19 July 2022, Solar Industries India Limited responded to a formal trace request issued by CAR on 21 June 2022. This response confirms that: 1) Solar Industries India Limited manufactured the Solar Cord-III bearing the case number '7242', the subject of CAR's trace request, in December 2012; 2) Solar Industries India Limited exported the items to Maybel Co. Sarl (Beirut, Lebanon), through the buyer Mining Services Overseas (Off Shore, Sal (Mso), Hamara Street, Strand Building, 1st Floor, Beirut, Lebanon; 3) the item was sold as part of a consignment of 500,000 metres of SOLAR CORD-III; 4) Mining Services Overseas purchased the items on 9 November 2012; and 5) the items were transported on the MV BBC Pacific from the Port of Mumbai (India) to the port of Beirut (Lebanon) on 22 January 2013. Solar Industries India Limited included a copy of the purchase order, export permit, bill of lading, inspection and quality assurance reports, and invoice in its response to CAR.

On 19 July 2022, Solar Industries India Limited responded to a formal trace request issued by CAR on 21 June 2022. This response confirms that: 1) Solar Industries India Limited manufactured the Solar Cord-III bearing the case number '[illegible]987', the subject of CAR's trace request, in December 2012; 2) Solar Industries India Limited exported the items to Maybel Co. Sarl (Beirut, Lebanon), through the buyer Mining Services Overseas (Off Shore, Sal (Mso), Hamara Street, Strand Building, 1st Floor, Beirut, Lebanon; 3) the item was sold as part of a consignment of 500,000 metres of SOLAR CORD-III; 4) Mining Services Overseas purchased the items on 9 November 2012; and 5) the items were transported on the MV BBC Pacific from the Port of Mumbai (India) to the port of Beirut (Lebanon) on 22 January 2013. Solar Industries India Limited included a copy of the purchase order, export permit, bill of lading, inspection and quality assurance reports, and invoice in its response to CAR. Solar Industries India Limited additionally informed CAR that given the absence of a full and complete case number, no proper identification is possible and therefore the response provided is concluded from the date of manufacture.

On 19 July 2022, Solar Industries India Limited responded to a formal trace request issued by CAR on 21 June 2022. This response confirms that: 1) Solar Industries India Limited manufactured the Solar Cord-III bearing the case number '736[illegible]', the subject of CAR's trace request, in December 2012; 2) Solar Industries India Limited exported the items to Maybel Co. Sarl (Beirut, Lebanon), through the buyer Mining Services Overseas (Off Shore, Sal (Mso), Hamara Street, Strand Building, 1st Floor, Beirut, Lebanon; 3) the item was sold as part of a consignment of 500,000 metres of SOLAR CORD-III; 4) Mining Services Overseas purchased the items on 9 November 2012; and 5) the items were transported on the MV BBC Pacific from the Port of Mumbai (India) to the port of Beirut (Lebanon) on 22 January 2013. Solar Industries India Limited included a copy of the purchase order, export permit, bill of lading, inspection and quality assurance reports, and invoice in its response to CAR. Solar Industries India Limited additionally informed CAR that given the absence of a full and complete case number, no proper identification is possible and therefore the response provided is concluded from the date of manufacture.

On 19 July 2022, Solar Industries India Limited responded to a formal trace request issued by CAR on 21 June 2022. This response confirms that: 1) Solar Industries India Limited manufactured the Solar Cord-III bearing the case number '7242', the subject of CAR's trace request, in December 2012; 2) Solar Industries India Limited exported the items to Maybel Co. Sarl (Beirut, Lebanon), through the buyer Mining Services Overseas (Off Shore, Sal (Mso), Hamara Street, Strand Building, 1st Floor, Beirut, Lebanon; 3) the item was sold as part of a consignment of 500,000 metres of SOLAR CORD-III; 4) Mining Services Overseas purchased the items on 9 November 2012; and 5) the items were transported on the MV BBC Pacific from the Port of Mumbai (India) to the port of Beirut (Lebanon) on 22 January 2013. Solar Industries India Limited included a copy of the purchase order, export permit, bill of lading, inspection and quality assurance reports, and invoice in its response to CAR.

On 19 July 2022, Solar Industries India Limited responded to a formal trace request issued by CAR on 21 June 2022. This response confirms that: 1) Solar Industries India Limited manufactured

the Solar Cord-III bearing the case number '6362', the subject of CAR's trace request, in December 2012; 2) Solar Industries India Limited exported the items to Maybel Co. Sarl (Beirut, Lebanon), through the buyer Mining Services Overseas (Off Shore, Sal (Mso), Hamara Street, Strand Building, 1st Floor, Beirut, Lebanon; 3) the item was sold as part of a consignment of 500,000 metres of SOLAR CORD-III; 4) Mining Services Overseas purchased the items on 9 November 2012; and 5) the items were transported on the MV BBC Pacific from the Port of Mumbai (India) to the port of Beirut (Lebanon) on 22 January 2013. Solar Industries India Limited included a copy of the purchase order, export permit, bill of lading, inspection and quality assurance reports, and invoice in its response to CAR.

On 19 July 2022, Solar Industries India Limited responded to a formal trace request issued by CAR on 21 June 2022. This response confirms that: 1) Solar Industries India Limited manufactured the Solar Cord-III bearing the case number '7881', the subject of CAR's trace request, in December 2012; 2) Solar Industries India Limited exported the items to Maybel Co. Sarl (Beirut, Lebanon), through the buyer Mining Services Overseas (Off Shore, Sal (Mso), Hamara Street, Strand Building, 1st Floor, Beirut, Lebanon; 3) the item was sold as part of a consignment of 500,000 metres of SOLAR CORD-III; 4) Mining Services Overseas purchased the items on 9 November 2012; and 5) the items were transported on the MV BBC Pacific from the Port of Mumbai (India) to the port of Beirut (Lebanon) on 22 January 2013. Solar Industries India Limited included a copy of the purchase order, export permit, bill of lading, inspection and quality assurance reports, and invoice in its response to CAR.

39 CAR is yet to receive a response to trace requests issued for these items. In the absence of a trace response, CAR cannot assess the legality of the transfer(s) in question.

40 On 31 May 2022, Vetrivel Explosives PVT LTD. responded to a formal trace request issued by CAR on 30 May 2022. This response confirms that: 1) Vetrivel Explosives PVT LTD. manufactured the Detonating Cord 12gm (Suncord12 gm) bearing the batch number 'EXD-986', the subject of CAR's trace request, on 10 July 2013; 2) Vetrivel Explosives PVT LTD. sold the detonating cord to Lebanese Explosives Co SARL, Majid Shammas and Co. (Amioun Koura, North Lebanon) as part of order number 'VEPL-12/2013' of 17 June 2013 comprised of 1,500 boxes (1,500,000 metres) of Detonating Cord 12gm (Suncord12 gm); 3) the recipient received 1,336 boxes bearing the batch numbers 'EXD-001' to 'EXD-1336' and 164 boxes bearing the batch numbers 'EXD-2940' to 'EXD-3103'; 4) the Petroleum and Explosives Safety Organisation, Government of India, issued the export license under export license number 'E-25(37)54/2009/31' of 16 January 2014, which authorised the export; and 5) PARTREDERIET DANICA IX transported the items on behalf of agent Noble Shipping PVT. LTD on the MV Danica Rainbow from the port of Mumbai (India) to the port of Beirut (Lebanon) under bill of lading number 'DRW/MUM/BRT-01' of 25 January 2014. Vetrivel Explosives PVT LTD. included copies of the purchase order, end-user certificate, commercial invoice, bill of lading and export licence in its response to CAR.

On 31 May 2022, Vetrivel Explosives PVT LTD. responded to a formal trace request issued by CAR on 30 May 2022. This response confirms that: 1) Vetrivel Explosives PVT LTD. manufactured the Detonating Cord 12gm (Suncord12 gm) bearing the batch number 'EXD 1148', the subject of CAR's trace request, on 12 July 2013; 2) Vetrivel Explosives PVT LTD. sold the detonating cord to Lebanese Explosives Co SARL, Majid Shammas and Co. (Amioun Koura, North Lebanon) as part of order number 'VEPL-12/2013' of 17 June 2013 comprised of 1,500 boxes (1,500,000 metres) of Detonating Cord 12gm (Suncord12 gm); 3) the recipient received 1336 boxes bearing the batch numbers 'EXD-001 to EXD-1336' and 164 boxes bearing the batch numbers 'EXD-2940 to EXD-3103'; 4) the Petroleum and Explosives Safety Organisation, Government of India, issued the export license under export license number 'E-25(37)54/2009/31' of 16 January 2014, which authorised the export; and 5) PARTREDERIET DANICA IX transported the items on behalf of agent Noble Shipping PVT. LTD on the MV Danica Rainbow from the port of Mumbai (India) to the port of Beirut (Lebanon) under bill of lading number 'DRW/MUM/BRT-01' of 25 January 2014. Vetrivel Explosives PVT LTD. included copies of the purchase order, end-user certificate, commercial invoice, bill of lading and export licence in its response to CAR.

On 31 May 2022, Vetrivel Explosives PVT LTD. responded to a formal trace request issued by CAR on 30 May 2022. This response confirms that: 1) Vetrivel Explosives PVT LTD. manufactured the Detonating Cord 12gm (Suncord12 gm) bearing the batch number 'EXD 3233', the subject of CAR's trace request, on 19 January 2014; 2) Vetrivel Explosives PVT LTD. sold the detonating cord to Lebanese Explosives Co SARL, Majid Shammas and Co. (Amioun Koura, North Lebanon) as part

of order number 'VPEL-12/2013' of 7 November 2013 comprised of 500 boxes (500,000 metres) of Detonating Cord 12gm (Suncord12 gm); 3) the recipient received 1336 boxes bearing the batch numbers 'EXD-3104 to EXD-3603'; 4) the Petroleum and Explosives Safety Organisation, Government of India, issued the export license under export license number 'E-25(37)54/2009/30' of 5 December 2013, which authorised the export; and 5) the items were transported on the MV Danica Rainbow from the port of Mumbai (India) to the port of Beirut (Lebanon) under bill of lading number 'DRW/MUM/BRT-0' of 25 January 2014. Vetrivel Explosives PVT LTD. included copies of the purchase order, end user certificate, commercial invoice, bill of lading and export licence in its response to CAR.

On 31 May 2022, Vetrivel Explosives PVT LTD. responded to a formal trace request issued by CAR on 30 May 2022. This response confirms that: 1) Vetrivel Explosives PVT LTD. manufactured the Detonating Cord 12gm (Suncord12 gm) bearing partial batch number 'EXD-29', the subject of CAR's trace request, on 13 January 2014; 2) Vetrivel Explosives PVT LTD. sold the detonating cord to Lebanese Explosives Co SARL, Majid Shammas and Co. (Amioun Koura, North Lebanon) as part of order number ''VEPL-12/2013' of 17 June 2013 comprised of 1,500 boxes (1,500,000 metres) of Detonating Cord 12gm (Suncord12 gm); 3) the recipient received 1336 boxes bearing the batch numbers 'EXD-001 to EXD-1336' and 164 boxes bearing the batch numbers 'EXD-2940 to EXD-3103'; 4) the Petroleum and Explosives Safety Organisation, Government of India, issued the export license under export license number 'E-25(37)54/2009/31' of 16 January 2014, which authorised the export; and 5) PARTREDERIET DANICA IX transported the items on behalf of agent Noble Shipping PVT. LTD on the MV Danica Rainbow from the port of Mumbai (India) to the port of Beirut (Lebanon) under bill of lading number 'DRW/MUM/BRT-01' of 25 January 2014. Vetrivel Explosives PVT LTD. included copies of the purchase order, end-user certificate, commercial invoice, bill of lading and export licence in its response to CAR.

41 CAR is yet to receive a response to the trace request issued for this item.

42 See endnote 40 for the full right of reply text.

43 Confidential source, on file with CAR.

44 Patlayici Maddeler San. Tic. A.Ş. became part of the Solar Group and changed its name to Solar Patlayici Maddeler in 2014 (Solar Group, 2021).

45 Confidential source on file with CAR.

46 CAR internal memo regarding a meeting with representatives from the Indian explosives companies Solar Industries Ltd. and Economic Explosives in Nagpur, India, on 21 August 2019.

47 The UN Comtrade database includes aggregated reporting of imports and exports, based on information provided by national governments using different codes under the Harmonized System. For this analysis, CAR looked at reported exports under Harmonized System code 3603: safety fuses; detonating fuses; percussion or detonating caps; igniters; electric detonators. This category includes all trade as reported by governments and does not disaggregate by recipient importer. As a result, the data does not capture national factors behind changes in imports and exports.

48 Non-electric detonators are initiated by means of a safety fuse.

49 The side of the boxes were marked with examination certificate codes associated with CDET ALFA-S Ordinary detonators delivered by the French National Institute for Industrial Environment and Risks (INERIS).

50 On 19 October 2023, CDET Explosive Industries Private Limited responded promptly to a formal trace request issued by CAR on 28 February 2023. This response confirmed that: 1) CDET Explosive Industries Private Limited manufactured the ALFA-S Ordinary Detonator 47 mm bearing the batch number 03/8, the subject of CAR's trace request, on 21 May 2015; 2) in July 2015, CDET Explosive Industries exported the item, by sea, to Lebanon (buyer unspecified), as part of a larger consignment comprised of 2,750,000 ALFA-S detonators; 3) the Petroleum and Explosive Safety Organisation of the Government of India granted a license that authorised the export of this consignment; 4) the buyer submitted a purchase order, end-user certificate, and import license for the consignment; 5) the end-user certificate specified that the materiel was to be used solely for civil projects and included a declaration that the materiel shall not be re-exported; and 6) CDET Explosive Industries received payment by a letter of credit. CDET Explosive Industries Private Limited informed CAR that it was not aware that the materiel had been re-transferred from Lebanon.

51 On 10 July 2020, CDET Explosive Industries Private Limited responded promptly to a formal trace request issued by CAR on 12 June 2020.

This response confirmed that: 1) CDET Explosive Industries Private Limited manufactured the Alfa-S Ordinary Detonator 47 mm bearing the batch number 25/10, which was the object of CAR's trace request, on 23 August 2013; 2) in January 2014, CDET Explosive Industries exported the item to Lebanon (buyer unspecified), as part of a larger consignment comprised of 1,350,000 ALFA-S Plain detonators, 156,000 VECTRA SDD 3m Short Delay detonators and 250,000 ELECTRA 3m Instantaneous Electric detonators; 3) the Petroleum and Explosive Safety Organisation of the Government of India granted a license that authorised the export of this consignment; 4) the buyer submitted a purchase order, end-user certificate, and import license for the consignment; 5) the end-user certificate specified that the materiel was to be used solely for civil projects and included a declaration that the materiel shall not be re-exported; and 6) CDET Explosive Industries received payment by a letter of credit. CDET Explosive Industries Private Limited informed CAR that it was not aware that the materiel had been re-transferred from Lebanon and that the company is unable to share any further information with organisations such as CAR.

On 10 July 2020, CDET Explosive Industries Private Limited responded promptly to a formal trace request issued by CAR on 12 June 2020. This response confirmed that: 1) CDET Explosive Industries Private Limited manufactured the Alfa-S Ordinary Detonator 47 mm bearing the 25/9, which was the object of CAR's trace request, on 23 August 20132) in January 2014, CDET Explosive Industries exported the item to Lebanon (buyer unspecified), as part of a larger consignment comprised of 1,350,000 ALFA-S Plain detonators, 156,000 VECTRA SDD 3m Short Delay detonators and 250,000 ELECTRA 3m Instantaneous Electric detonators; 3) the Petroleum and Explosive Safety Organisation of the Government of India granted a license that authorised the export of this consignment; 4) the buyer submitted a purchase order, end-user certificate, and import license for the consignment; 5) the end-user certificate specified that the materiel was to be used solely for civil projects and included a declaration that the materiel shall not be re-exported; and 6) CDET Explosive Industries received payment by a letter of credit. CDET Explosive Industries Private Limited informed CAR that it was not aware that the materiel had been re-transferred from Lebanon and that the company is unable to share any further information with organisations such as CAR.

52 In some cases, the digits were faintly visible beneath the obliteration.

53 CAR has previously reported on this series of rifles in CAR (2016b) and CAR (2022b).

54 As of 2021, the sole program recipients were SDF Counter-Terrorism Units and the Internal Security Forces (ISF, previously Asayish), with some funding going to a residual FSA group in Southern Syria (Offices of the Inspector General, 2021).

55 In some cases, the manufacturing state was able to confirm the provenance of the item but was unable to provide information on its transfer, either due to the age of the item or a lack of available records.

56 CAR has issued trace requests for every item in Table 5. Each endnote contains the right of reply by the state or company in question. CAR has issued onward trace requests to each of the last known legal custodians. CAR has issued trace requests for every item in Table 5. Each endnote contains the right of reply by the state or company in question. CAR has issued onward trace requests to each of the last known legal custodians and has included the rights of reply for all responses received.

57 On 18 July 2022, the Government of Romania responded to a formal trace request issued by CAR on 4 July 2022. This response confirms that: 1) Cugir Factory manufactured the AKM assault rifle bearing the serial number 'UH-7501-2001', the subject of CAR's trace request, in 2001; 2) the Romanian export control department authorised the export of Government of the United States of America; 3) the export licence was supported by international import certificate issued by the Department of Commerce/BATF/United States of America on 20 September 2002; 4) a Romanian company delivered the item on 21 November 2001; and 5) the Government of the United States of America provided the Romanian export control authority with a delivery verification certificate dated 30 November 2002 (with a US Customs stamp dated 3 February 2003).

58 On 12 January 2023, the Government of Romania responded to a formal trace request issued by CAR on 15 December 2022. This response confirms that: 1) S.C. Uzina Mecanică Mija S.A. manufactured the PG- 7 bearing the serial number '12-03-458', the subject of CAR's trace request, in 2003; 2) the Romanian export control department authorised the export to United International Supplies Inc./ United States of America; 3) the export licence was supported by international import certificate issued by the Department of Commerce/BATF/

United States of America on 17 December 2002; 4) a Romanian company delivered the item as part of a larger consignment in April 2003; and 5) the Government of the United States of America provided the Romanian export control authority with a delivery verification certificate dated 18 December 2003.

59 On 18 July 2022, the Government of Romania responded to a formal trace request issued by CAR on 4 July 2022. This response confirms that: 1) Cugir Arms Factory manufactured the AKM assault rifle bearing the serial number 'IBУ-3623-04', the subject of CAR's trace request, in 2004; 2) the Romanian export control department authorised the export of the item to the Interim Government for the Republic of Iraq; 3) the export licence was supported by an end-user certificate issued by the Iraqi Ministry of Defence on 15 January 2005; 4) a Romanian company delivered the item on 3 February 2005; and 5) the Iraqi Ministry of Interior provided the Romanian export control authority with a delivery verification certificate dated 14 October 2005.

60 On 18 July 2022, the Government of Romania responded to a formal trace request issued by CAR on 4 July 2022. This response confirms that: 1) Cugir Arms Factory manufactured the general-purpose machine gun bearing the serial number 'BS-4209', the subject of CAR's trace request, in 2005; 2) the Romanian export control department authorised the export of the item to the Interim Government for the Republic of Iraq (the Iraqi Ministry of Interior); 3) the export licence was supported by an end-user certificate issued by the Iraqi Ministry of Interior on 18 April 2005; 4) a Romanian company delivered the item on 21 July 2005; and 5) the Iraqi Ministry of Defence provided the Romanian export control authority with a delivery verification certificate dated 22 July 2005.

61 On 18 July 2022, the Government of Romania responded to a formal trace request issued by CAR on 4 July 2022. This response confirms that: 1) Cugir Arms Factory manufactured the general-purpose machine gun bearing the serial number 'BS-02883', the subject of CAR's trace request, in 2007; 2) the Romanian export control department authorised the export of the item to the Government of the Republic of Iraq (Iraqi Ministry of Interior); 3) the export licence was supported by an end-user certificate issued by the Iraqi Ministry of Interior on 11 January 2007; and 4) the item was delivered by air on 7 June 2007.

62 On 31 August 2023, the Government of Bulgaria responded to a formal trace request issued by CAR on 22 March 2023. This response confirms that: 1) Arsenal JSCo manufactured the RF-7MA rocket bearing the lot number '[10 in double circle]-04-13', the subject of CAR's trace request, in 2013; and 2) the Government of Bulgaria authorised the export of the item to two recipients:

— the Ministry of Defence of the Kingdom of Saudi Arabia, the declared end user, under a permit issued in 2013;

— and the US Air Force Special Operations Command, the declared end user, under a permit issued in 2013.

63 On 31 August 2023, the Government of Bulgaria responded to a formal trace request issued by CAR on 22 March 2023. This response confirms that: 1) Arsenal JSCo manufactured the RF-7MA rocket bearing the lot number '[10 in double circle]-01-13', the subject of CAR's trace request, in 2013; and 2) the Government of Bulgaria authorised the export of the item to three recipients:

– the Ministry of Armed Forces of France, the declared end user, under a permit issued in 2013;

– the Ministry of Defense of the Kingdom of Saudi Arabia, the declared end user, under a permit issued in 2013;

– and the United States Navy, the declared end user, under a permit issued in 2014.

64 On 31 August 2023, the Government of Bulgaria responded to a formal trace request issued by CAR on 22 March 2023. This response confirms that: 1) Arsenal JSCo manufactured the CP-71 expelling charge bearing the lot number '[10 in double circle]-05-14', the subject of CAR's trace request, in 2014; 2) CP-71 expelling charges bearing the lot number '[10 in double circle]-05-14' were contained in RF-7MA grenades bearing the lot numbers '[10 in double circle]-05-14' and '[10 in double circle]-06-14' and in RHEAT-7MA grenades bearing the lot number '[10 in double circle]-03-14'; 3) the Government of Bulgaria authorised the export of the RF-7MA to two recipients: - the Ministry of Defense of the Kingdom of Saudi Arabia, the declared end-user, under a permit issued in 2014; - and the Ministry of National Defense and Homeland Veterans of Angola, the declared end-user, under a permit issued in 2014; and 4) the Government of Bulgaria authorised the export of the RHEAT-7MA to two recipients: - the Ministry of Defense of the Kingdom of Saudi Arabia, the declared end-user, under a permit issued in 2015; - and the Ministry of Defense of Nigeria, the declared end-user, under a permit issued in 2015.

65 On 31 August 2023, the Government of Bulgaria responded to a formal trace request issued by CAR on 22 March 2023. This response confirms that: 1) Arsenal JSCo manufactured the CP-71 expelling charge bearing the lot number '[10 in double circle]-02-14', the subject of CAR's trace request, in 2014; and 2) the Government of Bulgaria authorised the export of RF-7MA rockets bearing the lot number '[10 in double circle]-04-14' to three recipients:

- the Ministry of Defense of the Kingdom of Saudi Arabia, the declared end user, under a permit issued in 2013 and 2014;
- the Special Forces of the Republic of South Africa, the declared end user, under a permit issued in 2014;
- and the Ministry of Armed Forces of France, the declared end user, under a permit issued in 2014.

66 On 31 August 2023, the Government of Bulgaria responded to a formal trace request issued by CAR on 22 March 2023. This response confirms that: 1) Arsenal JSCo manufactured the RF-7MA rocket bearing the lot number '[10 in double circle]-05-14', the subject of CAR's trace request, in 2014; and 2) the Government of Bulgaria authorised the export of the item to the declared end user, the Ministry of Defense of the Kingdom of Saudi Arabia, in 2014.

67 On 31 August 2023, the Government of Bulgaria responded to a formal trace request issued by CAR on 22 March 2023. This response confirms that: 1) Arsenal JSCo manufactured the CP-71 expelling charge bearing the lot number '[10 in double circle]-02-14', the subject of CAR's trace request, in 2014; and 2) the Government of Bulgaria authorised the export of RF-7MA rockets bearing the lot number '[10 in double circle]-04-14' to three recipients:

- the Ministry of Defense of the Kingdom of Saudi Arabia, the declared end user, under a permit issued in 2013 and 2014;
- the Special Forces of the Republic of South Africa, the declared end user, under a permit issued in 2014;
- and the Ministry of Armed Forces of France, the declared end user, under a permit issued in 2014.

68 On 31 August 2023, the Government of Bulgaria responded to a formal trace request issued by CAR on 22 March 2023. This response confirms that: 1) Vazovski Mashinostroitelni Zavodi (VMZ) EAD manufactured the PG-7T rocket bearing the lot number '[11 in double circle]-2-14', the subject of CAR's trace request, in 2014; and 2) the Government of Bulgaria authorised the export of the item, as part of a larger consignment of PG-7VT, to the declared end user, the United States Department of Defense, in 2014.

69 On 31 August 2023, the Government of Bulgaria responded to a formal trace request issued by CAR on 22 March 2023. This response confirms that: 1) Arsenal JSCo manufactured the OGi-7MA grenade bearing the lot number '[10 in double circle]-14-15', the subject of CAR's trace request, in 2015; and 2) the Government of Bulgaria authorised the export of the item to two recipients:

- the Ministry of Defense of the Kingdom of Saudi Arabia, the declared end user, under a permit issued in 2014;
- and the Ministry of Defense and Veterans Affairs of Uganda, the declared end user, under a permit issued in 2016.

70 On 5 May 2023, the Government of Romania responded to a formal trace request issued by CAR on 12 April 2023. This response confirms that: 1) S.C. Uzina Mecanică Mija S.A. manufactured the PG-7PM primary propelling charges bearing the lot number '16-15-452', the subjects of CAR's trace request, in 2015; 2) the Romanian export control department authorised the export to the Government of the United States of America; 3) the export licence was supported by an end-user certificate issued by the Department of the Army on 23 January 2015; 4) a Romanian company delivered the item as part of a larger consignment in October 2015; and 5) the Department of the Army provided the Romanian export control authority with a delivery verification certificate dated 14 March 2016.

71 On 12 January 2023, the Government of Romania responded to a formal trace request issued by CAR on 15 December 2022. This response confirms that: 1) S.C. Uzina Mecanică Mija S.A. manufactured the PG-7M bearing the lot/batch number '17-15-452', the subject of CAR's trace request, in 2015; 2) the Romanian export control department authorised the export to the Government of the United States of America; 3) the export licence was supported by an end-user certificate issued by the Department of the Army on 10 February 2015; and 4) the Department of the Army provided the Romanian export control authority with a delivery verification certificate dated 22 December 2015.

72 On 31 August 2023, the Government of Bulgaria responded to a formal trace request issued by CAR on 22 March 2023. This response confirms

that: 1) Vazovski Mashinostroitelni Zavodi (VMZ) EAD manufactured the PG-7T rocket bearing the lot number '[11 in double circle]-3-15', the subject of CAR's trace request, in 2015; and 2) the Government of Bulgaria authorised the export of the item, as part of a larger consignment of PG-7VT, to the declared end user, the Ministry of Defense of the Kingdom of Saudi Arabia, in 2015.

73 On 31 August 2023, the Government of Bulgaria responded to a formal trace request issued by CAR on 22 March 2023. This response confirms that: 1) Vazovski Mashinostroitelni Zavodi (VMZ) EAD manufactured the PG-7PT expelling charge bearing the lot number '5-15-[11 in double circle]', the subject of CAR's trace request, in 2015; and 2) the Government of Bulgaria authorised the export of the item, as part of a larger consignment of PG-7VT, to the declared end-user, the Ministry of Defense of the Kingdom of Saudi Arabia, in 2015.

74 See endnote 72 for the full right of reply for this item.

75 On 31 August 2023, the Government of Bulgaria responded to a formal trace request issued by CAR on 22 March 2023. This response confirms that: 1) Vazovski Mashinostroitelni Zavodi (VMZ) EAD manufactured the PG-7PT expelling charge bearing the lot number '4-15-[11 in double circle]', the subject of CAR's trace request, in 2015; and 2) the Government of Bulgaria authorised the export of the item, as part of a larger consignment of PG-7VT, to the declared end-user, the Ministry of Defense of the Kingdom of Saudi Arabia, in 2015.

76 On 31 August 2023, the Government of Bulgaria responded to a formal trace request issued by CAR on 22 March 2023. This response confirms that: 1) Vazovski Mashinostroitelni Zavodi (VMZ) EAD manufactured the PG-7PM expelling charge bearing the lot number '9-14-[11 in double circle]', attached to a rocket bearing the lot number '4-14-[11 in double circle]' the subjects of CAR's trace request, in 2014; and 2) the Government of Bulgaria authorised the export of the item, as part of a larger consignment of PG-7VM, to the declared end-user, the Ministry of Defense of the Kingdom of Saudi Arabia, in 2015.

77 On 31 August 2023, the Government of Bulgaria responded to a formal trace request issued by CAR on 22 March 2023. This response confirms that: 1) Vazovski Mashinostroitelni Zavodi (VMZ) EAD manufactured the PG-7PL expelling charge bearing the lot number '6-15-[11 in double circle]', the subject of CAR's trace request, in 2015; 2) the Government of Bulgaria authorised the export of the item, as part of a larger consignment of PG-7VT to three recipients:

- the Ministry of Defence of the Kingdom of Saudi Arabia, the declared end-user, under a permit issued between 2015 and 2016;
- the Ministry of Defense of Azerbaijan, the declared end-user, under a permit issued in 2015; and the Ministry of Armed Forces of France.

78 See endnote 76 for the full right of reply.

79 On 17 March 2023, the Government of Serbia responded to a formal trace request issued by CAR on 16 January 2023. This response confirms that: 1) Zastava Arms manufactured the M84 light machine gun bearing the serial number '47933', the subject of CAR's trace request; 2) Zastava Arms sold the item to B.I.E.M Ltd (Boyana, Belovodski Pat 15-17 Sofia, 01616, Bulgaria); and 3) on 10 February 2016, the item was shipped to Sofia, Bulgaria.

80 On 12 January 2023, the Government of Romania responded to a formal trace request issued by CAR on 15 December 2022. This response confirms that: 1) S.C. Uzina Mecanică Mija S.A. manufactured the PG-7M bearing the lot number '16-15-452', the subject of CAR's trace request, in 2015; 2) the Romanian export control department authorised the export to the Government of the United States of America; 3) the export licence was supported by an end-user certificate issued by the Department of the Army on 30 September 2014; and 4) the Department of the Army provided the Romanian export control authority with a delivery verification certificate dated 14 March 2016.

81 On 18 July 2022, the Government of Romania responded to a formal trace request issued by CAR on 4 July 2022. This response confirms that: 1) Cugir Arms Factory manufactured the general-purpose machine gun bearing the serial number 'F-7239', the subject of CAR's trace request, in 2016; 2) the Romanian export control department authorised the export of the item to the Government of the United States of America; 3) the export licence was supported by an end-user certificate issued by the Department of the Army on 20 November 2015; 4) a Romanian company delivered the item in March 2016; and 5) the Department of the Army provided the Romanian export control authority with a delivery verification certificate dated 5 May 2016.

82 On 18 July 2022, the Government of Romania responded to a formal trace request issued by CAR on 4 July 2022. This response confirms that: 1) Cugir Arms Factory manufactured the AKM

assault rifle bearing the serial number 'UX-2363-16', the subject of CAR's trace request, in 2016; 2) the Romanian export control department authorised the export of the item to the Department of the Army, United States of America, the declared end user; 3) the export licence was supported by an end-user certificate issued by the Department of the Army on 20 November 2015; 4) a Romanian company delivered the item as part of a larger consignment in March 2016; and 5) the Department of the Army provided the Romanian export control authority with a delivery verification certificate dated 5 May 2016.

83 On 5 May 2023, the Government of Romania responded to a formal trace request issued by CAR on 12 April 2023. This response confirms that: 1) Cugir Arms Factory manufactured the AKK assault rifle bearing the serial number 'UW-5248-15', the subject of CAR's trace request, in 2015; 2) the Romanian export control department authorised the export to the Ministry of Defence, Republic of Iraq; 3) the export licence was supported by an end-user certificate issued by the Ministry of Defence of the Republic of Iraq on 13 December 2015; 4) a Romanian company delivered the item as part of a larger consignment in May 2016; and 5) the US Department of Defence provided the Romanian export control authority with a delivery verification certificate dated 4 June 2017.

84 On 5 May 2023, the Government of Romania responded to a formal trace request issued by CAR on 12 April 2023. This response confirms that: 1) S.C. Uzina Mecanică Mija S.A. manufactured the 40mm PG-7PM primary propelling charge bearing the lot number '24-16-453', the subject of CAR's trace request, in 2016; 2) the Romanian export control department authorised the export to the Armytrans Ltd (Bulgaria), for re-export to the Ministry of Defence, Kingdom of Saudi Arabia; 3) the export licence was supported by an international import certificate issued by the Republic of Bulgaria on 20 November 2015 and a copy of the end-user certificate issued by the Ministry of Defence, Kingdom of Saudi Arabia on 14 July 2015; 4) a Romanian company delivered the item in June 2016; and 5) the Bulgarian importer provided the Romanian export control authority with a delivery verification certificate dated 11 October 2016 and a copy of the delivery verification certificate issued by the Ministry of Defence, Kingdom of Saudi Arabia that confirmed delivery of military goods on 5 August 2016.

85 On 12 January 2023, the Government of Romania responded to a formal trace request issued by CAR on 15 December 2022. This response confirms that: 1) S.C. Uzina Mecanică Mija S.A. manufactured the PG-7M bearing the lot number '22-16-453', the subject of CAR's trace request, in 2016; 2) the Romanian export control department authorised the export to the Government of the United States of America; 3) the export licence was supported by an end-user certificate issued by the Department of the Army on 23 January 2015; 4) a Romanian company delivered the item as part of a larger consignment in June 2016; and 5) the Department of the Army provided the Romanian export control authority with a delivery verification certificate dated 23 August 2016.

86 On 1 March 2023, the Government of Pakistan responded to a formal trace request issued by CAR on 15 December 2023. This response confirms that: 1) Pakistan Ordnance Factories manufactured the P1 MK1 bearing the lot number '09-16 057', the subject of CAR's trace request, in 2016; 2) Special Operations Forces Acquisition, Technology and Logistics Centre Contracting office (MacDill Air Force Base, Florida, USA) ordered the item as part of a consignment of 30,000 P1 MK1 units under contract number 'H92222-16-G-0004'; 3) the contract was issued to Global Ordnance LLC (7655 Matoaka Road Sarasota, Florida 34243, USA); 4) Chemring Military Products (10625 Pucket Road, Perry, Florida, USA) supplied the materiel for use by the United States Government for defence purposes; 5) the consignment was delivered to Ali Al Salem Air Base, Kuwait on an unknown date; and 6) on 26 September 2016, the Government of Pakistan received an end-user certificate issued by US Special Operations Command. The Government of Pakistan included a copy of the end-user certificate and purchase order in its response to CAR.

87 On 18 July 2022, the Government of Romania responded to a formal trace request issued by CAR on 4 July 2022. This response confirms that: 1) Cugir Arms Factory manufactured the AKM assault rifle bearing the serial number 'UZ-2508-16', the subject of CAR's trace request, in 2016; 2) the Romanian export control department authorised the export of the item to the Department of the Army, United States of America, the declared end user; 3) the export licence was supported by an end-user certificate issued by the Department of the Army on 20 November 2015; 4) a Romanian company delivered the item as part of a larger consignment on 12 September 2016; and 5) the Department of the Army provided the Romanian export control authority with a delivery verification certificate dated 20 October 2016.

88 On 5 May 2023, the Government of Romania responded to a formal trace request issued by CAR on 12 April 2023. This response confirms that: 1) S.C. Uzina Mecanică Mija S.A. manufactured PG-7PM primary propelling charges bearing the lot number '25-16-453', the subjects of CAR's trace request, in 2016; 2) the Romanian export control department authorised the export to Khan Asparuh Trade LTD, Bulgaria; 3) the export licence was supported by an international import certificate issued by the Republic of Bulgaria on 11 November 2015; 4) a Romanian company delivered the items between September and October 2016; and 5) Khan Asparuh Trade LTD, Bulgaria provided the Romanian export control authority with three delivery verification certificates dated 27 September 2016, 10 October 2016 and 19 October 2016.

89 On 9 November 2023, the Government of Bulgaria responded to a formal trace request issued by CAR on 14 August 2023. This response confirms that: 1) in 2015, Khan Asparuh Trade LTD purchased the PG-7PM expelling charges, the subject of CAR's trace request, from C.N. ROMARM S.A. as part of a batch of PG-7VM bearing the serial number '25-16-453', transferred under a permit issued in October 2015; 2) on an unknown date, Khan Asparuh Trade LTD sold the PG-7VM to a unspecified Bulgarian company; 3) the Bulgarian company exported the consignment to the Ministry of Defence of the Kingdom of Saudi Arabia, the end user, under a permit issued by the Bulgarian authorities in 2016 and an end user certificate issued by the Ministry of Defence of the Kingdom of Saudi Arabia; and 4) on an unknown date, the Ministry of Defence of the Kingdom of Saudi Arabia presented a delivery verification certificate to the Bulgarian authorities.

90 On 5 May 2023, the Government of Romania responded to a formal trace request issued by CAR on 12 April 2023. This response confirms that: 1) S.C. Uzina Mecanică Mija S.A. manufactured the PG-7PM primary propelling charges bearing the lot number '21-16-453', the subjects of CAR's trace request, in 2016; 2) the Romanian export control department authorised the export to the Government of the United States of America; 3) the export licence was supported by an end-user certificate issued by the Department of the Army on 23 January 2015; 4) a Romanian company delivered the item as part of a larger consignment in 2016; and 5) the Department of the Army provided the Romanian export control authority with a delivery verification certificate dated 5 May 2016.

On 5 May 2023, the Government of Romania responded to a formal trace request issued by CAR on 12 April 2023. This response confirms that: 1) S.C. Uzina Mecanică Mija S.A. manufactured the PG-7M rockets bearing the lot number '21-16-453', the subjects of CAR's trace request, in 2016; 2) the Romanian export control department authorised the export to the Government of the United States of America; 3) the export licence was supported by an end-user certificate issued by the Department of the Army on 23 January 2015; 4) a Romanian company delivered the item as part of a larger consignment in 2016; and 5) the Department of the Army provided the Romanian export control authority with a delivery verification certificate dated 5 May 2016

91 On 31 August 2023, the Government of Bulgaria responded to a formal trace request issued by CAR on 22 March 2023. This response confirms that: 1) Vazovski Mashinostroitelni Zavodi (VMZ) EAD manufactured the PG-7T rocket bearing the lot number '[11 in double circle]-5-16', the subject of CAR's trace request, in 2016; and 2) the Government of Bulgaria authorised the export of the item, as part of a larger consignment of PG-7VT, to the declared end user, the Ministry of Defense of the Kingdom of Saudi Arabia, in 2016.

92 On 5 May 2023, the Government of Romania responded to a formal trace request issued by CAR on 12 April 2023. This response confirms that: 1) S.C. Uzina Mecanică Mija S.A. manufactured PG-7PM primary propelling charges bearing the lot number '23-16-453', the subjects of CAR's trace request, in 2016; 2) the Romanian export control department authorised the export to Khan Asparuh Trade LTD, Bulgaria; 3) the export licence was supported by an international import certificate issued by the Republic of Bulgaria on 11 November 2015; 4) a Romanian company delivered the items in May, September and October 2016; and 5) Khan Asparuh Trade LTD, Bulgaria provided the Romanian export control authority with six delivery verification certificates dated 26 May 2016, 8 September 2016, 27 September 2016, 10 October 2016 and 19 October 2016.

93 On 9 November 2023, the Government of Bulgaria responded to a formal trace request issued by CAR on 14 August 2023. This response confirms that: 1) in 2015, Khan Asparuh Trade LTD purchased the PG-7PM expelling charges, the subject of CAR's trace request, from C.N. ROMARM S.A. as part of a batch of PG-7VM bearing the serial number '23-16-453', transferred under a permit issued in October 2015; 2) on an unknown date, Khan Asparuh Trade

LTD sold the PG-7VM to a unspecified Bulgarian company; 3) the Bulgarian company exported the consignment to the Ministry of Defence of the Kingdom of Saudi Arabia, the end user, under a permit issued by the Bulgarian authorities in 2016 and an end user certificate issued by the Ministry of Defence of the Kingdom of Saudi Arabia; and 4) on an unknown date, the Ministry of Defence of the Kingdom of Saudi Arabia presented a delivery verification certificate to the Bulgarian authorities.

94 On 31 August 2023, the Government of Bulgaria responded to a formal trace request issued by CAR on 22 March 2023. This response confirms that: 1) Vazovski Mashinostroitelni Zavodi (VMZ) EAD manufactured the PG-7PM expelling charge bearing the lot number '5-14-[11 in double circle]', the subject of CAR's trace request, in 2014; and 2) the Government of Bulgaria authorised the export of the item, as part of a larger consignment of OG-7V, to the declared end-user, the Ministry of Defense of the Kingdom of Saudi Arabia.

95 See endnotes 84, 89, and 93 for the full rights of reply.

96 On 17 March 2023, the Government of Serbia responded to a formal trace request issued by CAR on 16 January 2023. This response confirms that: 1) Zastava Arms manufactured the M84 light machine gun bearing the serial number '47933', the subject of CAR's trace request; 2) Zastava Arms sold the item to B.I.E.M Ltd (Boyana, Belovodski Pat 15-17 Sofia, 01616, Bulgaria); and 3) on 10 February 2016, the item was shipped to Sofia, Bulgaria.

97 CAR is yet to receive a response to the trace request issued for this item. In the absence of a trace response, CAR cannot assess the legality of the transfer(s) in question.

98 On 11 May 2023, the Government of Serbia responded to a formal trace request issued by CAR on 28 March 2023. This response confirms that: 1) Zastava Arms manufactured the M84 light machine gun bearing the serial number '49549', the subject of CAR's trace request; 2) the Serbian authorities authorised the export of the item to B.I.E.M Ltd (Boyana, Belovodski Pat 15-17 Sofia, 01616, Bulgaria), under export permit number '080-01-787' of 10 November 2015, for end use by the Ministry of Defense, Kingdom of Saudi Arabia; 3) the export licence was supported by an international import certificate (IIC) issued by the Interministerial Commission for export control and non proliferation of weapons of mass destruction, Government of Bulgaria on 12 October 2015 and an end-user certificate issued by the Ministry of Defense, Kingdom of Saudi Arabia on 31 March 2015; 4) Zastava Arms exported the item to BIEM on an unknown date; and 5) a Bulgarian company, Armytrans Ltd, exported the item as part of a larger consignment to the Ministry of Defense, Kingdom of Saudi Arabia on 14 September 2016 under dispatch note '40101'. The Government of Serbia included a copy of the export permit, international import certificate, and end-user certificate in its response to CAR.

99 In May 2023, CAR documented a rifle bearing the dot-peen mark in Deir-ez-Zor, Syria. It is the only rifle with this mark documented in Syria that was not associated with any of the high-profile attacks. As the conflict continues in Syria, the likelihood of observing weapons with similar markings spreading to other actors in the region will increase.

100 On 9 June 2020, the Government of Germany provided CAR with information regarding the traceability of weapons and ammunition manufactured in the former German Democratic Republic (GDR). This response confirmed that: 1) Prior to German reunification in 1990, GDR-manufactured weapons and ammunition were subject to GDR laws and procedures; 2) after reunification, exports of GDR-manufactured weapons and ammunition would have been licensed by the Federal authorities only in very exceptional circumstances, these items now being subject to restrictive Federal German export control law; and 3) taking into consideration the time elapsed and retention periods, the Federal Government does not hold any relevant documentation on exports of weapons and ammunition manufactured in the GDR.

101 On 9 June 2020, the Government of Germany provided CAR with information regarding the traceability of weapons and ammunition manufactured in the former German Democratic Republic (GDR). This response confirmed that: 1) Prior to German reunification in 1990, GDR-manufactured weapons and ammunition were subject to GDR laws and procedures; 2) after reunification, exports of GDR-manufactured weapons and ammunition would have been licensed by the Federal authorities only in very exceptional circumstances, these items now being subject to restrictive Federal German export control law; and 3) taking into consideration the time elapsed and retention periods, the Federal Government does not hold any relevant documentation on exports of weapons and ammunition manufactured in the GDR.

102 On 5 May 2023, the Government of Romania responded to a formal trace request issued by CAR on 12 April 2023. This response confirms that: 1) Cugir Factory manufactured the AKM assault rifle bearing the serial number 'SN 8532 1988', the subject of CAR's trace request, in 1988; 2) taking into consideration that the rifle was manufactured more than 30 years ago, the producer could not provide details regarding the export of this item; and 3) the Romanian Department for Export Controls additionally noted that the weapon has been modified (including the bolt carrier, bolt, return spring guide, gas tube, and top cover) and bears additional non-original marks on its frame.

103 On 5 May 2023, the Government of Romania responded to a formal trace request issued by CAR on 12 April 2023. This response confirms that the AKMS assault rifle bearing the serial number 'AV 522211 1988', the subject of CAR's trace request, is not of Romanian manufacture.

104 On 3 November 2023, the Government of Romania responded to a formal trace request issued by CAR on 24 October 2023. This response confirms that: 1) Cugir Factory manufactured the AKM assault rifle bearing the serial number '1980 LB 2311', the subject of CAR's trace request, in 1980; 2) taking into consideration that the rifle was manufactured more than 30 years ago, the producer could not provide details regarding the export of this item; and 3) the Romanian Department for Export Controls noted that the item includes a non-original bolt carrier, bolt, gas tube, and '211~1494' mark.

105 Interviews with confidential source, on file with CAR.

106 The SNA structure has evolved since its initial formation. Over recent years, a number of units formed alliances and merged with one another. While the structure of the three legions remains intact, the division and brigade levels have become less relevant.

107 CAR interviews with local security forces, north-east Syria (exact location withheld), 1 December 2021.

108 Interviews with confidential source, north Syria (exact location withheld), 16 January 2023 and 06 February 2023. On file with CAR.

109 CAR is yet to receive a response to the trace request issued for this item. In the absence of a trace response, CAR cannot assess the legality of the transfer(s) in question.

110 Of these items, 180 were rockets with attached expelling charges.

111 IS 'stay-behind' caches have been observed across Syria. One recent report states: 'ISIS was able to dodge the sweeps thanks to having spread its cells across the Badia since 2018 and established safehouses and weapons caches prior to that' (ICG, 2022).

112 On 2 January 2024, the Government of Lithuania responded to a formal trace request issued by CAR on 5 October 2023. This response confirms that: 1) the Lithuanian Armed Forces purchased the Bulgarian-manufactured PG-7L grenades bearing the lot number '[11 in double circle]-1-18', the subjects of CAR's trace request, in 2018; and 2) in March 2022, some of these items were delivered to Ukraine via a logistics centre in Poland (Polloghub, Rzeszów-Jesionka), for military aid; and 3) the remaining items could not be the ones documented by CAR in March 2022 in Northeast Syria.

113 On 22 December 2023, the Government of Bulgaria responded to a formal trace request issued by CAR on 20 October 2023. This response confirms that: 1) Arsenal JSCo manufactured the OGi-7MA rocket bearing the lot number '[10 in double circle]-01-18', the subject of CAR's trace request, in 2018; and 2) the Government of Bulgaria authorised the export of the item, as part of a larger consignment, to the Command of the Turkish Land Forces, the declared end-user. The Government of Bulgaria received a delivery verification certificate and four international bills of lading confirming receipt of delivery.

114 See endnote 24 for the full right of reply for this item.

115 See endnote 24 for the full right of reply for this item.

116 See endnote 24 for the full right of reply for this item

117 On 31 August 2023, the Government of Bulgaria responded to a formal trace request issued by CAR on 22 March 2023. This response confirms that: 1) Vazovski Mashinostroitelni Zavodi (VMZ) EAD manufactured the PG-7L grenade bearing the lot number '[11 in double circle]-1-18', the subject of CAR's trace request, in 2018; and 2) the Government of Bulgaria authorised the export of the item, as part of a larger consignment of PG-7VL to two recipients:

— the Ministry of National Defense of Turkey, the declared end user, under a permit issued in 2018;

— and the Lithuanian Armed Forces, the declared end user, brokered by the NATO Support and Procurement Agency, under a permit issued in 2018.

118 See endnote 26 for the full right of reply

119 See endnote 26 for the full right of reply.

120 See endnote 26 for the full right of reply.

121 A two-way radio voice communications system requires little modification to be used as a switch in an RCIED.

122 CAR is yet to receive a response to trace requests issued for these items. In the absence of a trace response, CAR cannot assess the legality of the transfer(s) in question.

123 CAR interviews with local security forces, north-east Syria (exact location withheld), February 2023.

124 Confidential CAR technical report, on file with CAR.

125 CAR is yet to receive a response to trace requests issued for these items. In the absence of a trace response, CAR cannot assess the legality of the transfer(s) in question.

126 On 24 March 2023, Hongfa Europe GmbH responded to a formal trace request issued by CAR on 21 March 2023. This response confirms that: 1) Hongfa manufactured the HFD3/5 signal relay bearing the imprint 'XR0505', the subject of CAR's trace request; 2) Hongfa produces millions of the HFD3/5 signal relay, which are sold worldwide to distributors. Hongfa does not control this distribution system; and 3) the HFD3/5 signal relay is produced by Hongfa without a serial number and therefore Hongfa is unable to identify the distributor which received the signal relay in question.

On 24 March 2023, Hongfa Europe GmbH responded to a formal trace request issued by CAR on 21 March 2023. This response confirms that: 1) Hongfa manufactured the HFD3/5 signal relay bearing the imprint 'XQ0902', the subject of CAR's trace request; 2) Hongfa produces millions of the HFD3/5 signal relay, which are sold worldwide to distributors. Hongfa does not control this distribution system; and 3) the HFD3/5 signal relay is produced by Hongfa without a serial number and therefore Hongfa is unable to identify the distributor which received the signal relay in question

127 In response to an advance notification issued by CAR on 7 November 2023, HONGFA Europe GmbH stated that: 1) HONGFA Europe GmbH is not the manufacturer of relays but simply the seller of these goods; and 2) based on the batch numbers listed in the table, it is impossible to identify the chain of custody of the relays as the items could have been sold through a distribution channel of the manufacturer.

128 The analysis was conducted by Christopher Davies M.A., D.Phil., who specialises in the scientific examination of documents and handwriting. From 1981 until 2010, he was employed in the Questioned Documents Section at the Metropolitan Police Forensic Science Laboratory, which became the London Laboratory of the Forensic Science Service in 1996. He has carried out handwriting comparisons involving Arabic script since 1995. He now works as an independent forensic document examiner.

129 There were some similarities between the Type 2 writings and the writings recovered in the IED switch workshop in Raqqa (2023), but the comparison is limited and therefore inconclusive. (Davies, 2023).

130 See endnotes 126 and 127 for the full right of reply text.

131 On 14 April 2023, STMicroelectronics responded to a formal trace request issued by CAR on 23 March 2023. This response confirms that: 1) the TIP102 transistor bearing the mark 'CCOXC', the subject of CAR's trace request, is not of STMicroelectronics manufacture; 2) the marking layout is inconsistent with genuine STMicroelectronics items; and 3) there is no reference to the traceability code in the company's internal database.

On 14 April 2023, STMicroelectronics responded to a formal trace request issued by CAR on 23 March 2023. This response confirms that: 1) the TIP102, the subject of CAR's trace request, is not of STMicroelectronics manufacture; and 2) the marking layout is inconsistent with genuine STMicroelectronics items and there is no reference to the traceability code in the company's internal database.

On 14 April 2023, STMicroelectronics responded to a formal trace request issued by CAR on 23 March 2023. This response confirms that: 1) the L7805CV, the subject of CAR's trace request, is not of STMicroelectronics manufacture; and 2) the marking layout is inconsistent with genuine STMicroelectronics items and there is no reference to the traceability code in the company's internal database.

On 14 April 2023, STMicroelectronics responded to a formal trace request issued by CAR on 23 March 2023. This response confirms that: 1) the L7805CV, the subject of CAR's trace request, is not of STMicroelectronics manufacture; and 2) the marking layout is inconsistent with genuine STMicroelectronics items and there is no reference to the traceability code in the company's internal database.

On 14 April 2023, STMicroelectronics responded to a formal trace request issued by CAR on 23 March 2023. This response confirms that: 1) the L7805CV, the subject of CAR's trace request, is not of STMicroelectronics manufacture; and 2) the marking layout is inconsistent with genuine STMicroelectronics items and there is no reference to the traceability code in the company's internal database.

On 14 April 2023, STMicroelectronics responded to a formal trace request issued by CAR on 23 March 2023. This response confirms that: 1) the L7806CV, the subject of CAR's trace request, is not of STMicroelectronics manufacture; and 2) the marking layout is inconsistent with genuine STMicroelectronics items and there is no reference to the traceability code in the company's internal database.

132 CAR is yet to receive a response to trace requests issued for these items. In the absence of a trace response, CAR cannot assess the legality of the transfer(s) in question.

133 CAR is yet to receive a response to trace requests issued for these items. In the absence of a trace response, CAR cannot assess the legality of the transfer(s) in question.

134 Of the 659 magazines, 195 were loaded with ammunition.

135 CAR also documented three additional barrels.

136 This total includes 10 expelling charges assembled to 10 rockets.

137 This total includes 170 expelling charges attached to rockets.

138 Security forces recovered 8,135 rounds of small-calibre ammunition from this seizure. CAR documented 6,355 of the total number of rounds present.

139 Security forces recovered 7,850 rounds of small-calibre ammunition from this seizure. CAR documented 1,548 of the total number of rounds present.

140 Security forces recovered 12,000 rounds of small-calibre ammunition from this seizure. CAR documented 4,717 of the total number of rounds present.

▲ A bullet-ridden vehicle in the aftermath of the attempted attack on Al-Hol camp, November 2022.

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AFTER THE CALIPHATE: ISLAMIC STATE WEAPONS IN HIGH-PROFILE OPERATIONS IN NORTH-EAST SYRIA

CONFLICT
ARMAMENT
RESEARCH

AFTER THE CALIPHATE

ISLAMIC STATE WEAPONS IN HIGH-PROFILE OPERATIONS IN NORTH-EAST SYRIA

January 2024

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DEUTSCHE ZUSAMMENARBEIT