


WEAPONS OF THE ISLAMIC STATE

A three-year investigation in Iraq and Syria

December 2017





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INTRODUCTION

In the three years between July 2014 and November 2017, Conflict Armament Research (CAR) deployed its field investigation teams across Islamic State (IS) forces' frontline positions. These operations covered an unbroken arc of territory extending from the northern Syrian city of Kobane to the south of the Iraqi capital, Baghdad. While this report does not provide an exhaustive overview of all IS weapons and their origins, it is unquestionably the most comprehensive, verified study of the group's weapons to date.

The report presents an analysis of more than 40,000 items recovered from IS forces between 2014 and 2017. Many of these items originated in shipments that run into the thousands. These items encompass weapons, ammunition, and the traceable components and chemical precursors used by IS forces to manufacture improvised explosive devices (IEDs). With the extensive cooperation of national governments and

producer companies, CAR traced many of these items to establish the precise lines of supply that brought them from the place of manufacture to the conflicts raging in Iraq and Syria. Some of the data featured in this report has formed the basis of several criminal proceedings, including investigations by Belgian police into supplies of IED components. The report finds that:

- Around 90 per cent of weapons and ammunition (97 per cent and 87 per cent, respectively) deployed by IS forces are Warsaw Pact calibres—originating primarily in China, Russia, and Eastern European producer states. 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.
- Unauthorised retransfer—the violation of agreements by which a supplier government prohibits the re-export of materiel by a recipient government without its prior consent—is a significant source of IS weapons and ammunition. The United States and Saudi Arabia supplied most of this materiel without authorisation, apparently to Syrian opposition forces. This diverted materiel, recovered from IS forces, comprises exclusively Warsaw Pact-calibre weapons and ammunition, purchased by the United States and Saudi Arabia from European Union (EU) Member States in Eastern Europe.

AROUND 90 PER CENT OF WEAPONS AND AMMUNITION DEPLOYED BY ISLAMIC STATE FORCES ARE WARSAW PACT CALIBRES—ORIGINATING PRIMARILY IN CHINA, RUSSIA, AND EASTERN EUROPEAN PRODUCER STATES.



- CAR documentation shows that the most rapid case of diversion following unauthorised retransfer was that of an advanced anti-tank guided weapon (ATGW). The weapon was manufactured in the EU, sold to the United States, supplied to a party in the Syrian conflict, transferred to IS forces in Iraq, and documented by a CAR field investigation team following its recovery from IS forces. The full chain of transactions occurred within two months of the weapon's dispatch from the factory.
- Supplies of materiel into the Syrian conflict from foreign parties—notably the United States and Saudi Arabia—have indirectly allowed IS to obtain substantial quantities of anti-armour ammunition. These weapons include ATGWs and several varieties of rocket with tandem warheads, which are designed to defeat modern reactive armour. These systems continue to pose a significant threat to the coalition of troops arrayed against IS forces.
- Russia and China, combined, manufactured more than 50 per cent of the weapons and ammunition held by IS forces. Former Warsaw Pact countries that are now EU Member States manufactured a significant proportion of the remaining materiel (more than 30 per cent of weapons and 20 per cent of ammunition).
- The origins of the weapons that IS forces deploy in Iraq differ from those of the materiel they use in Syria. China produced the majority of the materiel (weapons and ammunition combined) fielded by the group in both countries. However, Russian-manufactured weapons outnumber Chinese weapons deployed by IS forces in Syria—presumably reflecting Russian supplies to the Syrian regime. Many of the group's weapons mirror those of the two regimes in its respective countries of operation. These findings support widespread assumptions that the group initially captured much of its military materiel from Iraqi and Syrian government forces.
- Almost half (845) of the weapons documented by CAR feature serial numbers that are close in sequence to those of other, identical weapons in the sample. They can be grouped into 240 sets of weapons that were manufactured in the same production runs and probably exported in the same, or successive, batches.
- In contrast to weapons, IS forces' ammunition holdings are skewed towards recent manufacture. Weapons manufactured in the current decade (2010–17) comprise less than 2 per cent of the group's total weapon holdings, while more than 60 per cent were manufactured before 1990. In marked contrast, more than 15 per cent of the group's ammunition dates from the 2010–17 period, of which most was produced and supplied after the start of the Syrian conflict. These findings underscore the pivotal role that supplies of newly produced—and recently diverted—ammunition play in sustaining armed insurgency and terrorism worldwide.
- Nearly 40 per cent of all 40 mm (PG-7) and 73 mm (PG-9) anti-armour rockets deployed by IS forces in Iraq were produced in the past four years (2014 to 2017)—the period during which the group became a significant component of the Iraq and Syria conflicts. EU Member States produced nearly 20 per cent of these post-



2014-manufactured rockets (and 40 per cent of rockets manufactured since 2010)—a fact that sits uncomfortably with the EU’s parallel efforts to degrade the group’s capacity to wage war and terrorism and to mitigate the international effects of the Syrian conflict.

- A broad cross section of the materiel recovered from IS forces, and documented by CAR, displays evidence that parties attempted to conceal its provenance. These efforts include: the removal of ammunition from its original boxes, which would otherwise provide consignment information; the repacking of ammunition; and the obliteration of factory marks on weapons and ammunition by overpainting or abrasion. These activities are evidence of deliberate attempts by parties to conceal their involvement in supplying weapons into the conflicts in Iraq and Syria—despite the fact that neither government is subject to a UN arms embargo.
- IS forces deploy weapons and ammunition that originate in other conflict-affected regions, or match materiel that has been diverted to those regions. Cases of cross-conflict transfer include: weapons that have been diverted from Libyan national stockpiles and moved to Syria and Iraq; ammunition that originates from shipments that Eastern European states originally exported to the United States, which CAR also documented in Somalia; matching lot numbers among IS rockets documented by CAR in Iraq, Syria, and Yemen; and identical weapons—loaded with identical ammunition—deployed by IS forces in Syria, but previously identified in circulation with non-state armed groups in South Sudan, after having been supplied illicitly by the Sudanese government.

RUSSIA AND CHINA, COMBINED, MANUFACTURED MORE THAN 50 PER CENT OF THE WEAPONS AND AMMUNITION HELD BY ISLAMIC STATE FORCES.

These findings underscore that the same avenues for weapon diversion operate between otherwise unconnected conflicts in Africa and the Middle East.

- IS forces have relied on a steady stream of commercial products and explosive goods to construct unprecedented numbers of IEDs. Turkish territory is the main—although not exclusive—source of chemical explosive precursors (ammonium nitrate, potassium nitrate, aluminium paste, and sorbitol), detonating cord, detonators, containers used to house IED main charges, and ancillary IED components employed by IS forces. CAR has identified specific parties responsible for purchasing these components on the Turkish market and for supplying a range of opposition forces in northern Syria, including Salafist jihadist factions.
- CAR documented large quantities of chemical precursors used by IS forces in the production of explosives and propellant. Many of these precursors are either manufactured by the same factory, or supplied by the same distributor. IS forces procured them in bulk and, in some cases, they sourced different precursors around



the same time. Such bulk buying from a single source is likely to be highly visible in commercial sales records.

- CAR documented other components that, while procured from the same source by IS forces, had been procured on different dates, in large quantities and over a long period of time. This indicates that IS forces have a robust supply chain, whereby the group can repeatedly procure chemicals from the same supplier.

This study would not have been possible without the unfaltering assistance and partnership of the Iraqi Security Forces, the Peshmerga in Iraq's Kurdistan Region, and the Kurdish People's Protection Units (YPG) in Syria. These forces, and their political superiors, provided CAR's field investigation teams with complete access to front-line positions, allowed full evidence recovery from weapon seizure sites and captured IS weapon-production facilities, and ensured the teams' safety and security during some of the most intense battles of the conflict.

Equally critical to this investigation was the voluntary assistance provided by many of the manufacturers of the weapons, ammunition, and commercial products listed in this report—and their respective governments. Not one of these manufacturers or their governments acted unlawfully. Their cooperation with CAR is an indicator of the strength of their domestic and international commitments to curb the supply of weapons and associated materiel to unauthorised users. By identifying producers of weapons that were unlawfully diverted to terrorist forces, CAR does not imply that any manufacturer was complicit in diversion. Rather, the aim is to provide facts and evidence of the full supply chain. A failure by CAR to provide such facts about the basic operations of weapon supply chains—such as country of origin, route, and destination—would have rendered the findings of this report meaningless.

CAR has taken the firmest steps to minimise possible negative outcomes for any of the producing commercial entities and governments listed in this report. Although the investigative teams were granted unparalleled access to information on the precise circumstances of weapon transfers—as national governments supplied CAR with lists of brokers, shippers, and the numbers of weapons and ammunition lawfully shipped, among other details—CAR has

THESE FINDINGS ARE A STARK REMINDER OF THE CONTRADICTIONS INHERENT IN SUPPLYING WEAPONS INTO ARMED CONFLICTS IN WHICH MULTIPLE COMPETING AND OVERLAPPING NON-STATE ARMED GROUPS OPERATE.

consciously refrained from releasing most of this information into the public domain. This decision is informed by the understanding that the main drivers of illicit weapon supplies are not the companies and states that manufacture weapons, but the governments and entities that acquire weapons lawfully and subsequently divert them to unauthorised users.

At the very least, the diversion of weapons documented in this report has eroded the trust that exporting authorities placed in the recipient governments. At worst, the diversions occurred in violation of signed agreements that commit recipient governments not to retransfer materiel without the exporter's prior consent.

The report concludes that international weapon supplies to factions in the Syrian conflict have significantly augmented the quantity and quality of weapons available to IS forces—in numbers far beyond those that would have been available to the group through battlefield capture alone.

The large-scale capture of weapons by IS forces from units of the Iraqi defence and security forces, notably in 2014, is well documented. However, the fact that the group has rapidly acquired (often within the space of months) weapons supplied by a range of extra-regional states is less well recognised. In particular, the impact of the group's acquisition of anti-armour weapons on its operational capacity is difficult to quantify, but these weapons continue to pose a significant threat to coalition armoured forces.

These findings are a stark reminder of the contradictions inherent in supplying weapons into armed conflicts in which multiple competing and overlapping non-state armed groups operate. Under such circumstances, it is difficult to exert effective control over which groups ultimately gain

custody of weapons. As this report demonstrates, Iraq and Syria have seen IS forces use large numbers of weapons, supplied by states such as Saudi Arabia and the United States, against the various international anti-IS coalitions that the two states support.

International military operations have significantly degraded IS forces' military capacity and reduced their territorial control. A reduction in territory has probably impeded the group's capacity to tap into weapons supplied to non-state factions in the Syrian conflict. However, the group continues to pose a grave threat to regional and international security. Certain findings in this report reinforce these observations, including that IS forces:

- are in possession of advanced weapon systems, which will pose a threat to regional and international forces in the years to come;
- have a demonstrated ability to manufacture improvised weapons and IEDs on a large and sophisticated scale; and

THE REPORT CONCLUDES THAT INTERNATIONAL WEAPON SUPPLIES TO FACTIONS IN THE SYRIAN CONFLICT HAVE SIGNIFICANTLY AUGMENTED THE QUANTITY AND QUALITY OF WEAPONS AVAILABLE TO ISLAMIC STATE FORCES.

- are able to tap into regional and international commercial markets to acquire chemical precursors and off-the-shelf products for the development of 'new' weapons.

Combined with global reach, demonstrated logistical and organisational capacity, and willing recruits around the world, these factors translate into an exportable capacity to conduct insurgency and terrorism well beyond the region.



NOTES ON METHODOLOGY

CAR investigation teams deployed along IS frontlines from July 2014 to November 2017 in Iraq, and from July 2014 to September 2015 in Syria (due to border passage restrictions instituted that year by the Kurdistan Regional Government of Iraq). The varying durations of deployment preclude certain comparisons.

Excluding travel and logistics, the teams spent 111 days physically inspecting and documenting weapons across the region, performing 84 site visits in Iraq and 27 in Syria (see Map 1). Since July 2014, CAR has documented 1,270 weapons and 29,168 units of ammunition in Iraq, and 562 weapons and 11,816 units of ammunition in Syria. These figures add up to totals of 1,832 weapons and 40,984 units of ammunition recovered from IS forces across the region (see Appendix 1). CAR has integrated these items into its EU-funded iTrace® Global Weapon Reporting System, which the Government of Germany co-finances.

CAR investigators have enjoyed extensive collaboration with a variety of state and non-state armed forces in Iraq and Syria since 2014. As there is no consolidated policy or system for storing or registering weapons and ammunition across these disparate forces, however, it is not possible to identify a) all cases in which government or non-state forces have recovered weapons and ammunition from IS forces, or b) where those weapons are located. As a result, accessing all materiel recovered from IS forces is an unfeasible task. Despite these limitations, the materiel documented by CAR constitutes the most comprehensive sample of weapons and ammunition captured from IS forces to date.

While CAR deployed field investigation teams across the entirety of IS forces' front lines in Iraq, CAR's deployment in Syria was limited to territory controlled by Syrian Kurdish forces in the north-east of the country.

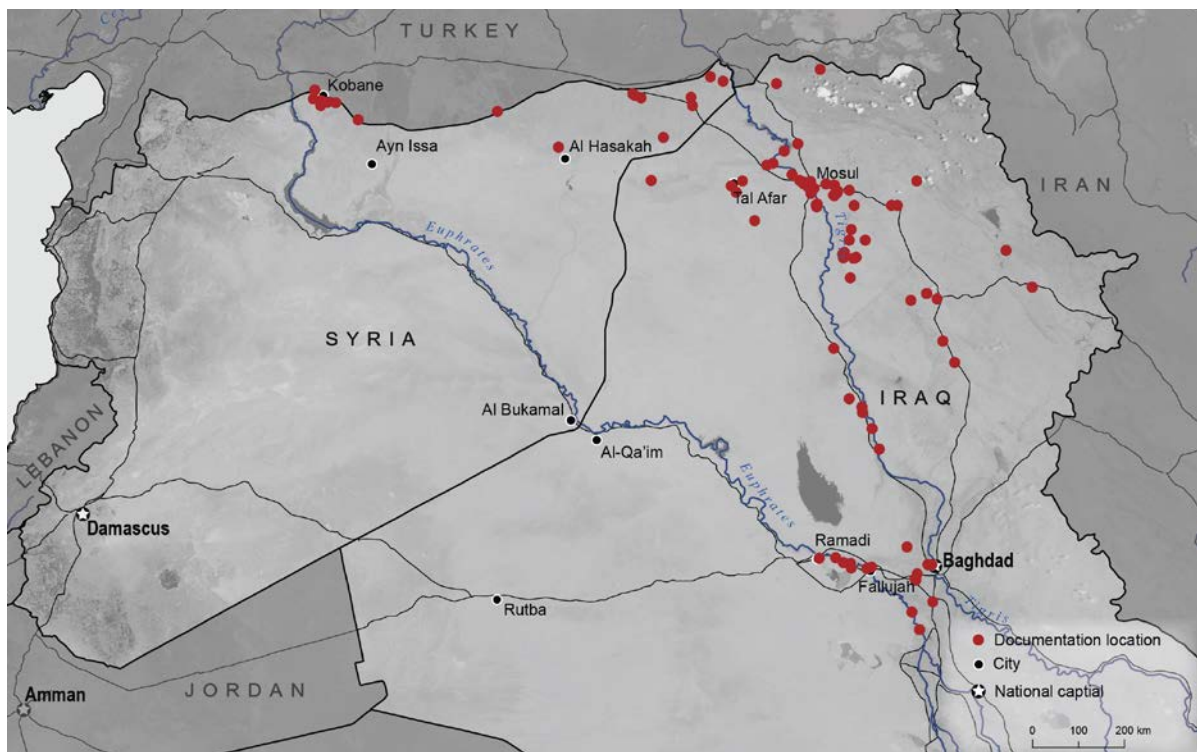


CAR photographically and physically documents illicit materiel in situ; GPS-records seizure and documentation sites; and maps contextual information provided during interviews with

authorities in possession of illicit materiel, or non-state groups and individuals involved in the trafficking of weapons.

Map 1

CAR documentation locations in Iraq and Syria, 2014–17



CAR occasionally uses information and photographs from social media, but investigations are not based 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. In general, this information can only be obtained through physical examination.

CAR traces only a portion of the items it documents in the field. This traced materiel is usually of particular significance for CAR's investigations. If the 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.

Unless specified in this report, 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 and companies whose responses to CAR's trace requests have been critical in its ongoing investigations.

Unless noted otherwise, all the materiel discussed in this report was recovered from IS forces and documented by CAR. CAR determined countries of manufacture for the weapons and ammunition documented based on trace responses it received from producer countries or on features and marks found on the weapons and ammunition themselves.

SECTION 1

CONVENTIONAL MATERIEL



The sources of conventional, factory-manufactured weapons and ammunition used by IS forces differ from the group's sources of IED precursors and components. The former are primarily military weapons, while the latter are largely civilian market goods. Given these differences, the report discusses the two 'markets' in isolation. This section addresses conventional weapon and ammunition acquisition by the group; Section 2 presents findings on its acquisition of IED precursors, components, and related materiel.

BASELINE DATA ON ISLAMIC STATE WEAPONS AND AMMUNITION

WEAPON BASELINE DATA

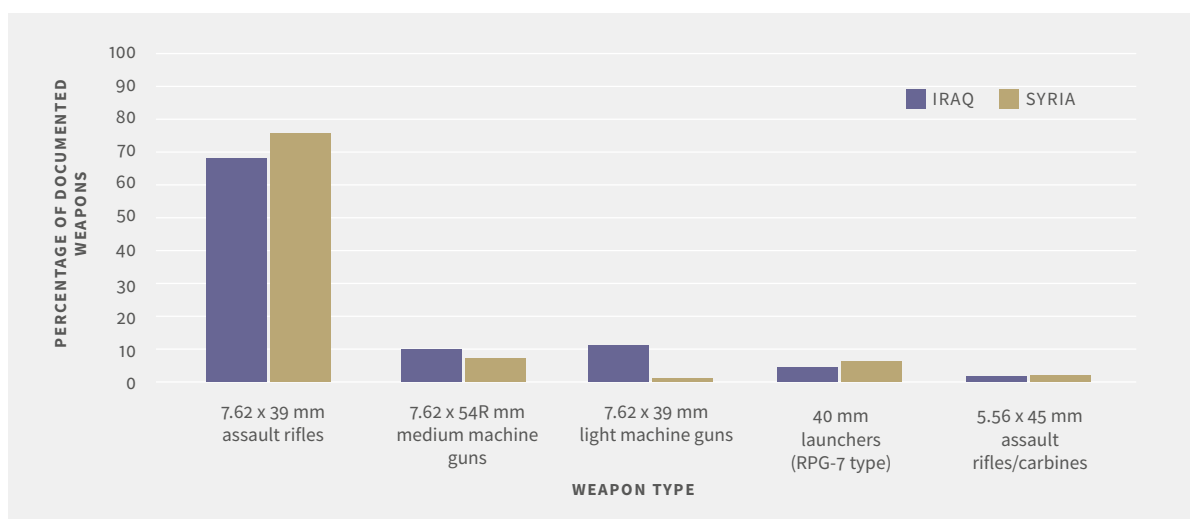
This section of the report profiles the numbers, types, and origins of weapons deployed by IS forces in Iraq and Syria. In total, CAR field investigation teams operating on either side of the Iraq–Syria border documented 1,832 weapons, the vast majority of which were chambered for Warsaw Pact-calibre ammunition. The weapons were designed in the Soviet Union but later

exported to, and produced in, aligned countries, including China, various Eastern European states, and Iraq. Despite similarities in calibre, there are considerable differences in the weapon types acquired and deployed by the group on either side of the border, and these differences reflect varied supply sources.

Types

Chart 1

Top five common weapon types documented in Iraq and Syria



- An analysis of the weapons documented by calibre indicates that the majority of small arms¹ recovered from IS forces, and documented by CAR, are chambered for Warsaw Pact-calibre ammunition² (97 per cent of the regional small arms sample),³ while small arms chambered for NATO calibres⁴ only represent a small proportion (3 per cent of the regional small arms sample).
- The most common type of weapon deployed in the region is the AK-pattern assault rifle, which is chambered for 7.62 x 39 mm ammunition. Rifles chambered for 5.56 x 45 mm only represent a small fraction of the weapons documented.
- CAR's data on recovered IS weapons appears to contradict the narrative that IS forces deployed a

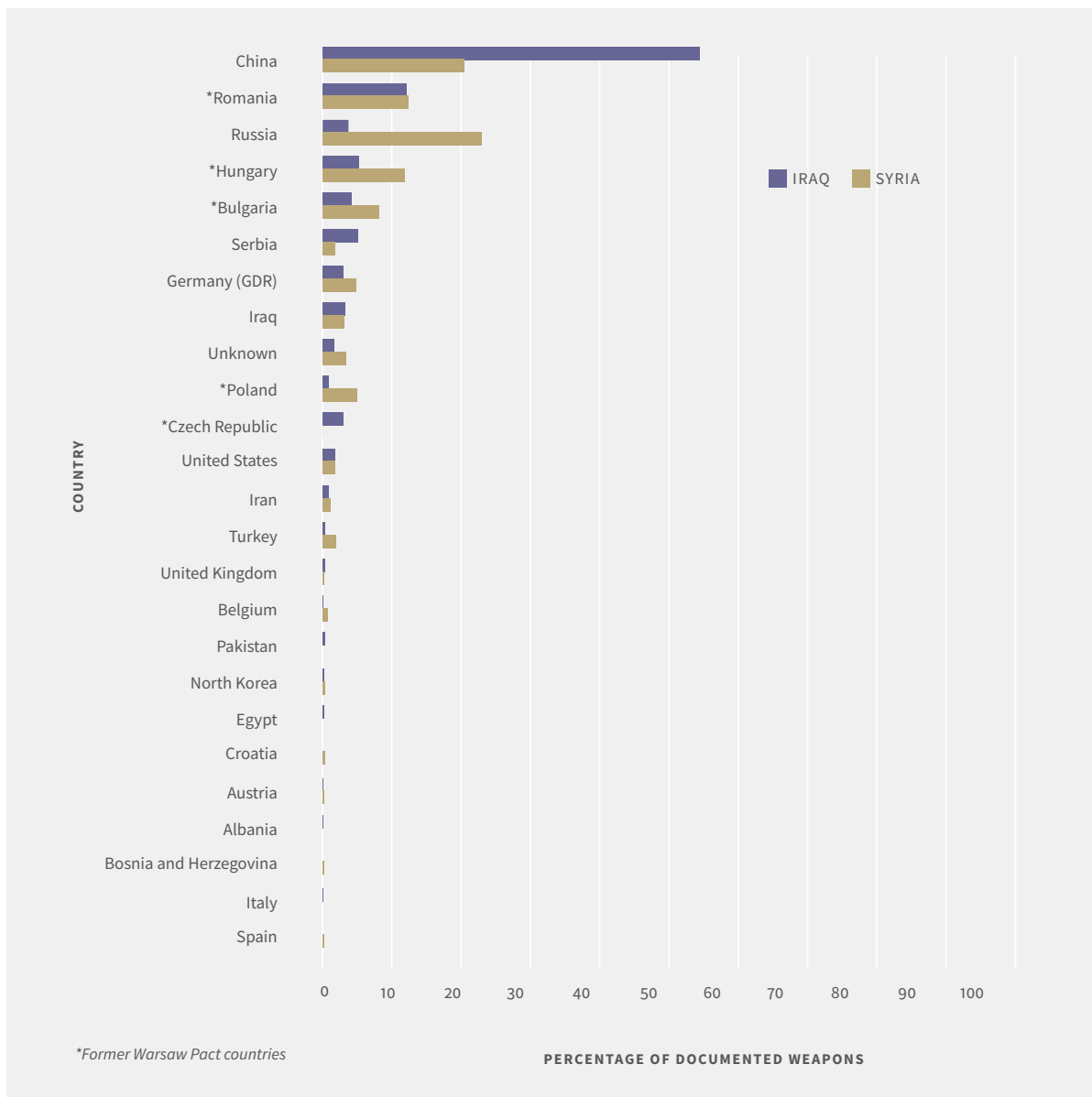
significant quantity of US-made rifles chambered for NATO calibres, which the group reportedly captured in the 2014 offensives that led to the capture of Mosul. IS forces have perpetuated this narrative in their propaganda—often featuring US-made weapons in online images and videos.⁵

resupply easier. Second, rifles chambered for 5.56 x 45 mm calibre are generally considered a prized find and may have been redistributed and diverted again shortly after recovery from IS forces, but before the arrival on site of CAR’s field investigation teams.

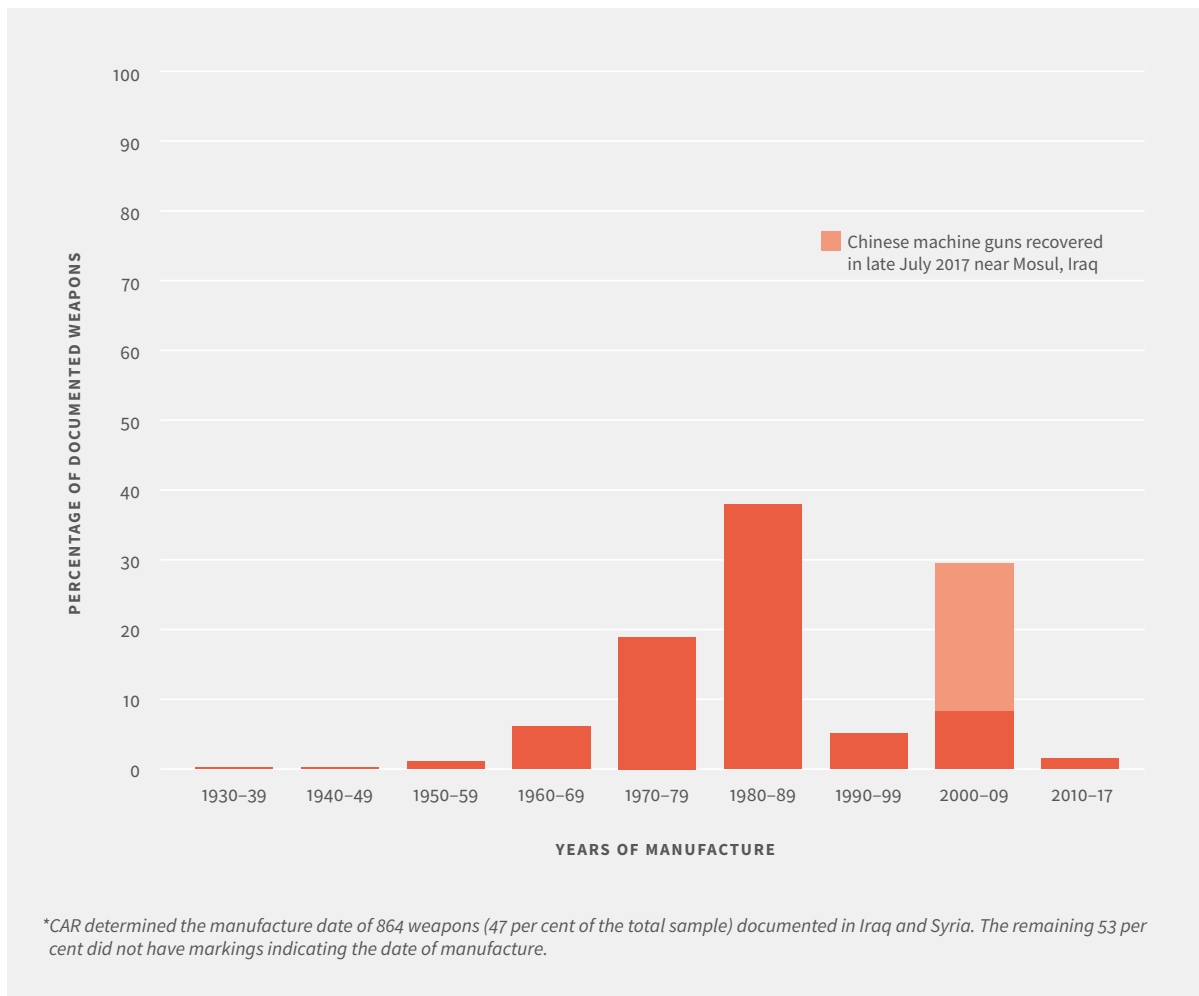
- Several factors may explain these findings. First, in regions where Warsaw Pact calibres predominate in the weapons deployed by both state and non-state groups, the use of standardised calibres makes logistics and
- A large recovery of light machine guns, chambered for 7.62 x 39 mm ammunition, in late July 2017 near Mosul accounts for most of the weapons of this type documented in Iraq (see Box 1 on p.17).

Origins

Chart 2
Top manufacturing countries of weapons documented in Iraq and Syria



- China and former Warsaw Pact EU Member States, such as Hungary and Romania, manufactured the majority of the weapons documented by CAR in Iraq. The Syrian data demonstrates a different trend: Russia manufactured most of the weapons, closely followed by China and then former Warsaw Pact EU Member States—Romania, Hungary, and Bulgaria.⁶
- The United States manufactured only a small proportion (2 per cent) of weapons recovered from IS forces and documented by CAR in the region.
- Former Warsaw Pact EU Member States manufactured 28 per cent of the weapons documented in Iraq, and 42 per cent of those documented in Syria.⁷ These findings indicate that, in addition to the weapons already present in Iraq before 2003 and in Syria before 2011, third-party states supplied actors in both countries with additional Warsaw Pact weapons. These weapons are compatible with Warsaw Pact-calibre ammunition, which is in widespread circulation in the region.
- Domestic production represents 3 per cent of the materiel documented in Iraq. In addition, 127 weapons documented in Iraq (10 per cent of the sample of weapons documented in the country) feature a visible Iraqi arsenal mark, which indicates they were imported to the country prior to the beginning of the war in 2003 and incorporated into Iraqi stockpiles. In Syria, CAR documented 17 Iraqi-manufactured weapons and 44 weapons bearing Iraqi arsenal marks (8 per cent of the sample of weapons documented in the country).

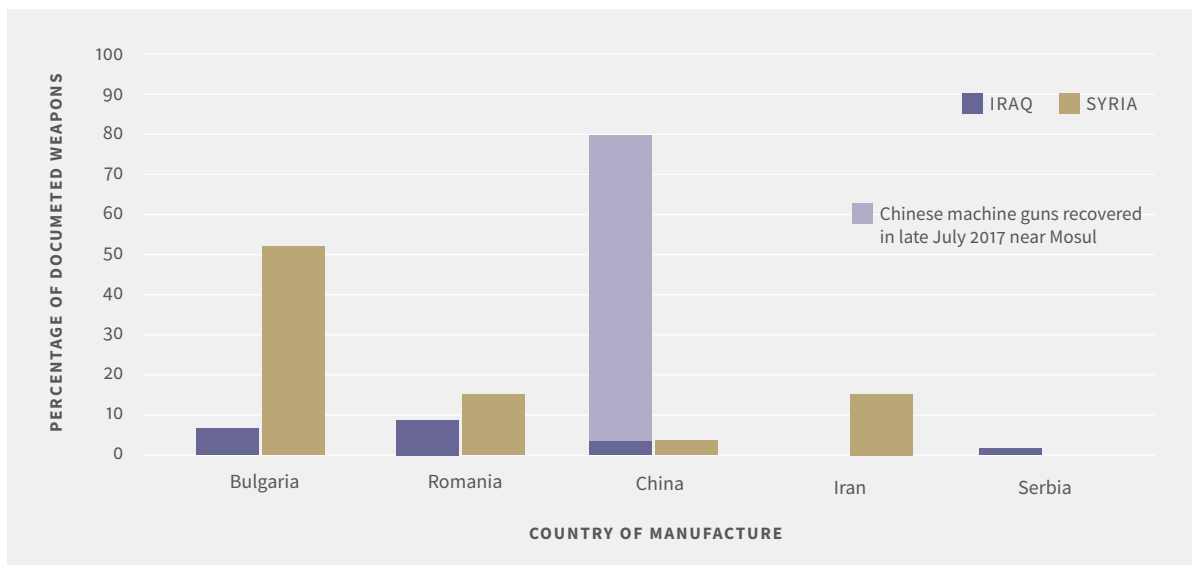
Chart 3**Weapons documented in Iraq and Syria, by decade of manufacture***



Tal Afar, Iraq, November 2017

- This data reveals that a significant proportion of the weapons was produced—and presumably supplied to the region—between 1960 and 1989. As the majority of the weapons documented in the region were manufactured in former Warsaw Pact countries, this trend is plausibly the result of transfers made during the Cold War and of surplus transfers immediately after its end.
- China, Bulgaria, and Romania account for the largest proportions of recently manufactured weapons that were recovered from IS forces and documented by CAR.⁸ More than 50 per cent of the weapons documented in Syria and manufactured after 2000 originated in Bulgaria. Iranian- and Romanian-manufactured weapons trail Bulgarian production, each with a 15 per cent share of the Syria sample.
- Iraq has been under a United Nations Security Council arms embargo since August 1990. Following the 2003 invasion, the Security Council modified the embargo and lifted restrictions on the supply of weapons and related material to the Government of Iraq and multinational forces. The pre-2003 sanctions regime is a plausible reason for relatively low numbers of weapons produced in the 1990s.

Chart 4
Top manufacturing countries of post-2000 weapons documented in Iraq and Syria



BOX 1: CHINESE MACHINES GUNS OF RECENT MANUFACTURE

Between 23 and 28 September 2017, CAR documented 122 Chinese Type 81 7.62 x 39 mm light machine guns and 61 Chinese Type 67-2 7.62 x 54R mm medium machine guns, recovered from an IS cache in the Al Shura district, south of Mosul. Iraqi forces recaptured the area in October 2016. The serial numbers of the weapons are either in sequence (that is, 1, 2, 3), or close in sequence (such as 1, 3, 6), and indicate production in 2007 and 2008. One to three

pouches filled with powder were affixed to each weapon. Presumptive analysis revealed that the powder was a performance-enhancing amphetamine. The close serial number sequencing of 122 identical weapons indicates a large diversion from a single intended end user. It is clear that, following acquisition, IS forces had stockpiled the weapons together with individual rations of performance-enhancing drugs for issue to its fighters.

Figure 1

A cache of 122 Chinese 762 x 39 mm light machine guns



Summary

Considerable international attention has focused on the capture of US-manufactured weapons by IS forces from Iraqi military units, yet these weapons account for only 2 per cent of the group's holdings in its Iraq and Syria operations. Most of the group's weapons are Warsaw Pact calibres, which are in widespread service among Iraqi and Syrian forces and also deployed by most opposition forces fighting in the Syrian conflict. The ultimate origins of these weapons mirror broad trends in the

global market for Warsaw Pact-calibre materiel. China predominates as a producer. Weapons manufactured by EU Member States in Eastern Europe form the bulk of the remaining materiel deployed by IS forces on either side of the Iraq–Syria border. Russian-manufactured weapons are the second-most common types among IS forces in Syria, but not in Iraq (possibly due to Russian support for the Syrian regime and subsequent acquisition by IS forces).

AMMUNITION BASELINE DATA

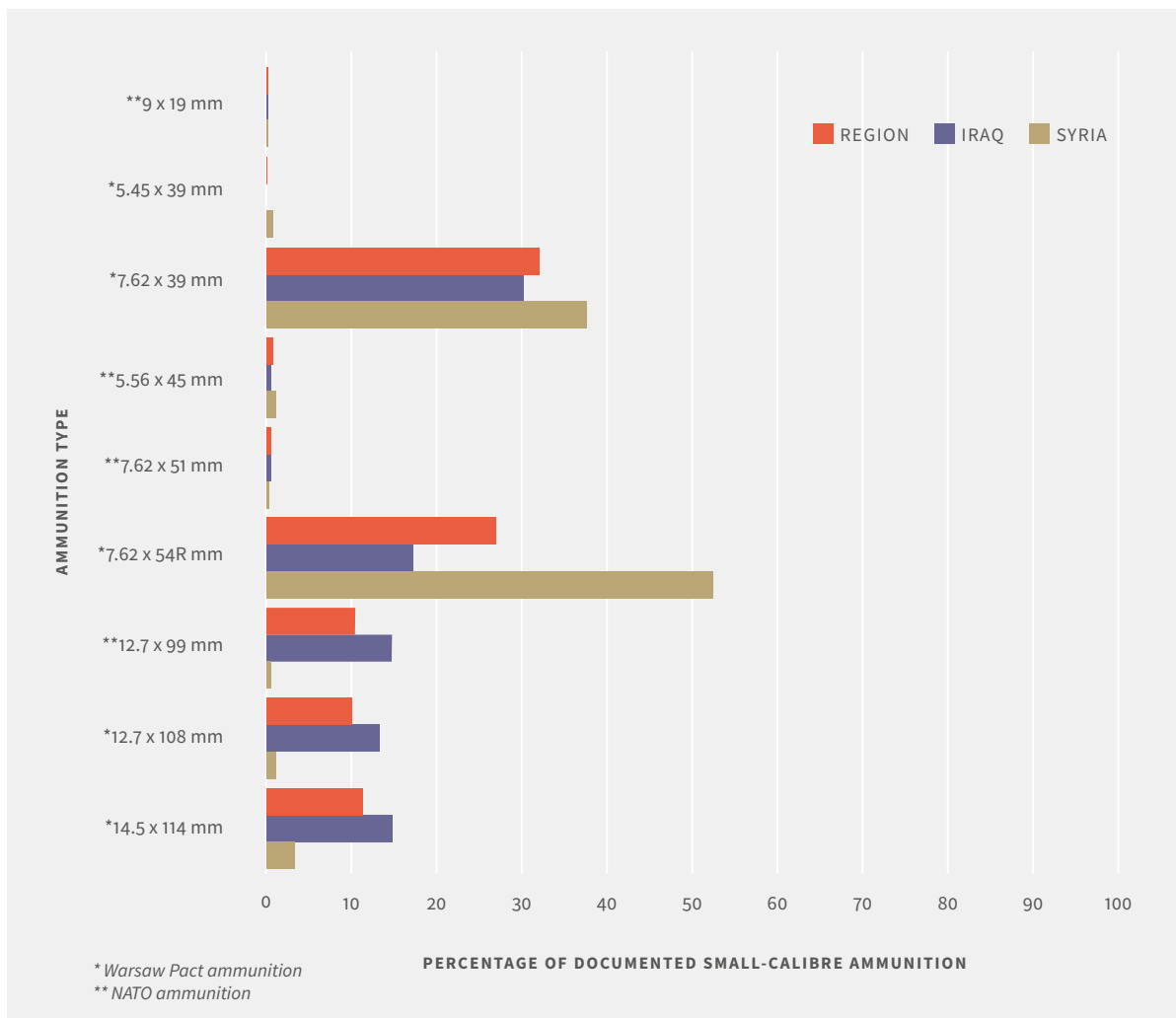
The following subsections present data on the volumes, types, and origins of ammunition deployed by IS forces in Iraq and Syria. In total, CAR field investigation teams documented 40,984 units of ammunition in Iraq and Syria (29,168 and 11,816, respectively). The ammunition originated in 38 producer countries.

Small-calibre ammunition that is used in assault rifles and machine guns comprises almost 93 per cent of the total volume documented by CAR. This imposes limitations on analysis, because loose small-calibre ammunition is rarely marked with lot numbers, which are required to identify specific ammunition consignments in production

or export records. The required information is generally marked on ammunition boxes. As noted in the ‘Diversion dynamics’ section, below, CAR recovered many such boxes and traced their provenance; however, the majority of the small-calibre ammunition could not be traced because CAR documented it loose, following its removal from factory boxes. Thus, while the data set presented in this section provides critical insights into the scale of ammunition supplies into the conflicts in Iraq and Syria, and arguably confirms some basic assumptions regarding broad trends in ammunition acquisition by IS forces, it cannot delineate individual lines of supply to the group.

Types

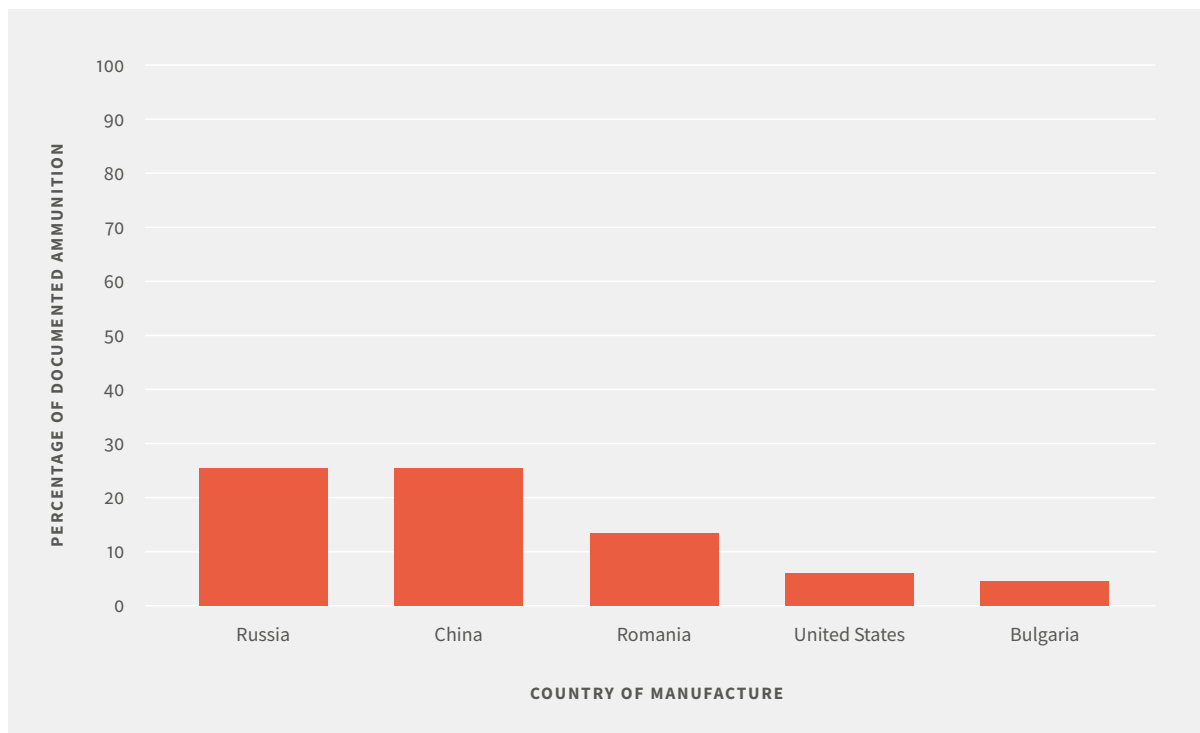
Chart 5
Small-calibre ammunition documented in Iraq and Syria, by type



- Ammunition documentation confirms a trend similar to that observed with respect to weapons: Warsaw Pact ammunition represents 87 per cent of the small-calibre ammunition sample, while NATO ammunition represents just 13 per cent of it.
- Within the total ammunition sample, small-calibre ammunition constitutes almost 93 per cent of the ammunition recovered from IS forces and documented by CAR. Within this category, 7.62 x 39 mm and 7.62 x 54R mm calibres outnumber all others.
- Although 5.56 x 45 mm ammunition accounts for less than 1 per cent of the regional small-calibre ammunition sample, CAR field investigation teams found it at 20 different sites. CAR documented weapons chambered for 5.56 x 45 mm ammunition at eight different locations. The ammunition documentation indicates that IS forces used weapons chambered for this NATO calibre, but these were not present in the documentation sites visited by CAR.

Origins

Chart 6
Top five manufacturing countries of ammunition documented in Iraq and Syria



- Russian and Chinese ammunition constitutes just over half of the total sample collected across Iraq and Syria. Russia, China, and Romania manufactured almost 65 per cent of the regional sample. The remaining 35 manufacturing countries in the sample all produced significantly smaller amounts.
- The manufacturing countries most represented in the ammunition sample documented in Iraq are Russia (27 per cent), China (18 per cent), and Romania (16 per cent).
- In Syria, Chinese ammunition is most common, accounting for 43 per cent of the sample, followed by Russian ammunition (23 per cent).
- Domestic production constitutes only a small proportion of the sample in both Iraq (2 per cent) and Syria (6 per cent).

Chart 7

Top five manufacturing countries of ammunition documented in Iraq

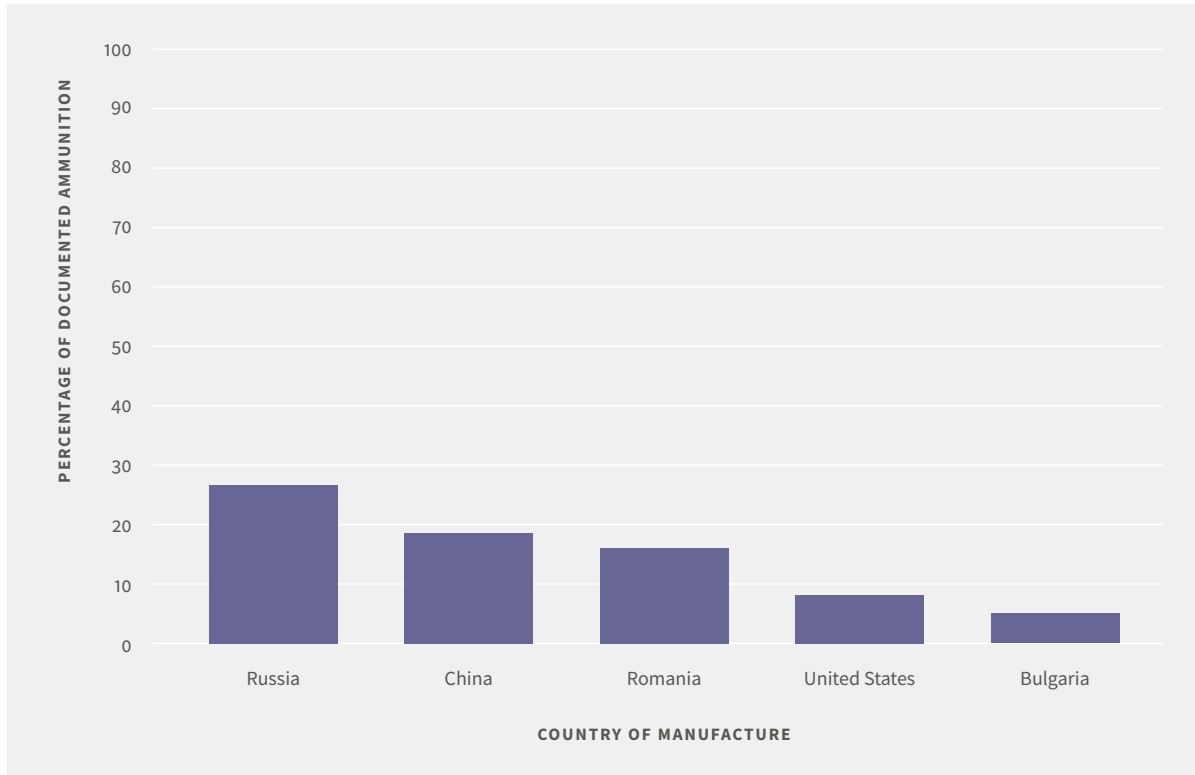


Chart 8

Top five manufacturing countries of ammunition documented in Syria

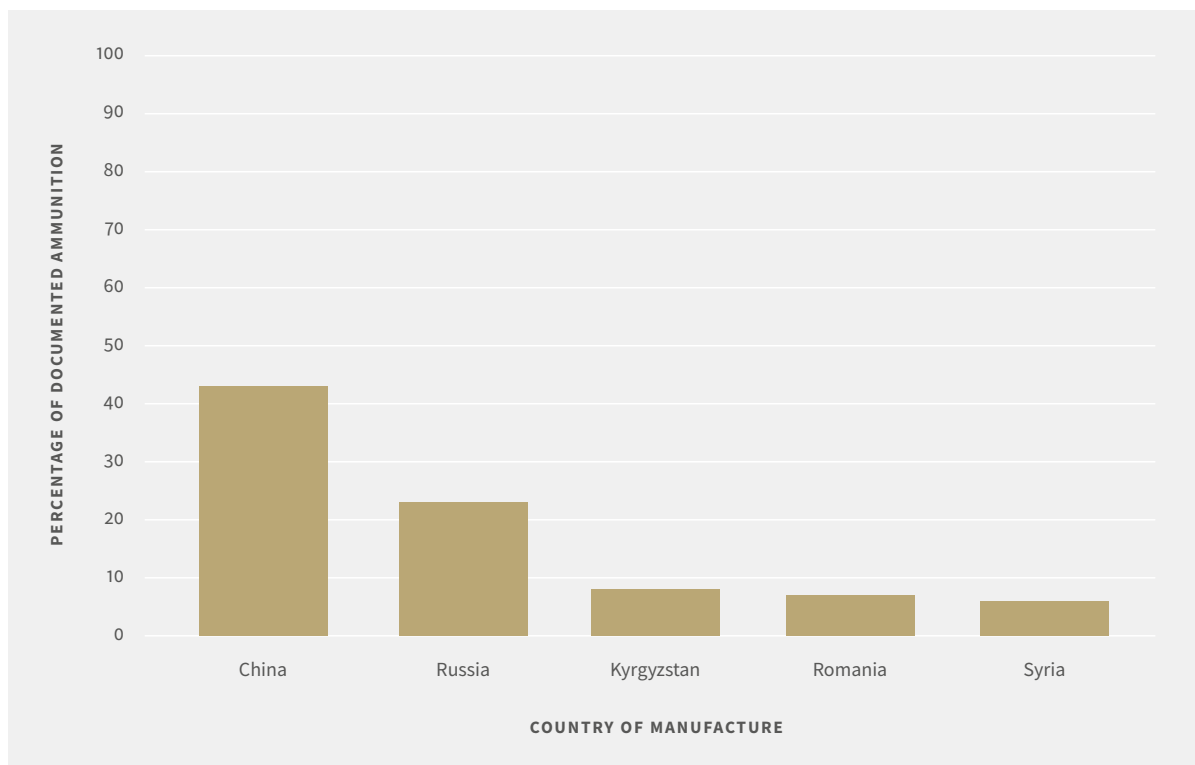
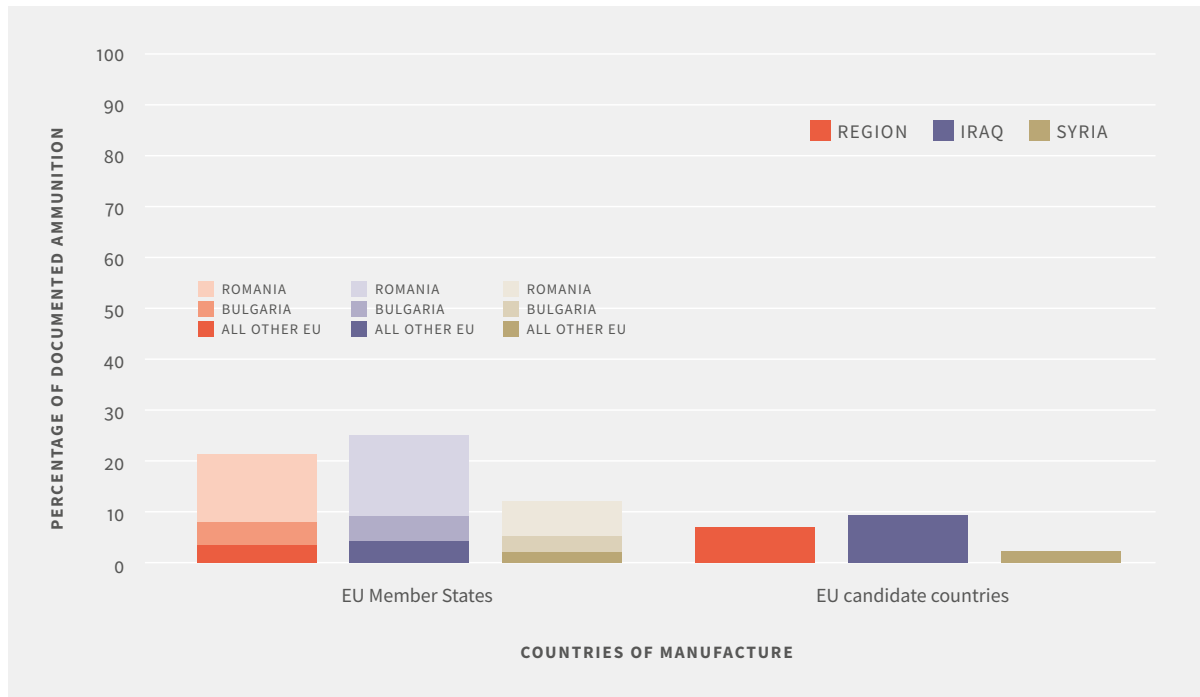


Chart 9**Top EU and candidate EU manufacturers of ammunition documented in Iraq and Syria**

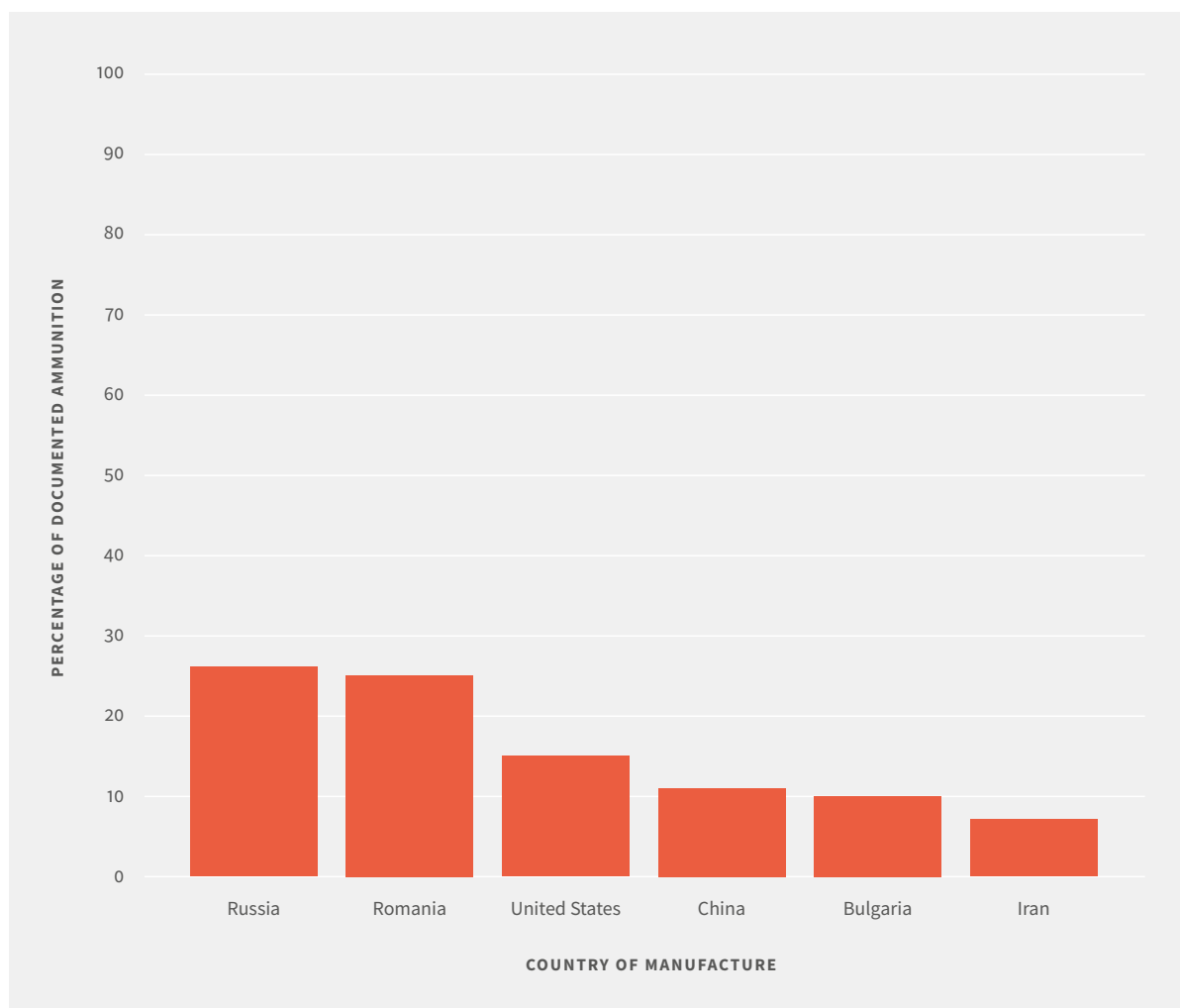
- EU-manufactured ammunition constitutes approximately 21 per cent of the regional sample (25 per cent in Iraq and 12 per cent in Syria), amounting to 8,761 individually documented items.
- Given calibre compatibility,⁹ it is not surprising that almost all the materiel originating in the EU was manufactured by former Warsaw Pact countries. Romania and Bulgaria alone manufactured 7,251 items in the sample, accounting for more than 83 per cent of the total EU-manufactured sample. Only three other EU countries manufactured more than 100 units of ammunition in the sample: Belgium, the Czech Republic, and Slovakia.¹⁰
- Ammunition manufactured in EU candidate countries constitutes 7 per cent of the sample.¹¹

EU-MANUFACTURED AMMUNITION CONSTITUTES APPROXIMATELY 21 PER CENT OF THE REGIONAL SAMPLE RECOVERED FROM ISLAMIC STATE FORCES.

The beginning of the Syrian civil war in 2011, followed by the rise of IS forces and the collapse of major Iraqi urban centres such as Fallujah, Mosul, and Tikrit in 2014, appears to have changed regional patterns of weapon and

ammunition diversion. An analysis of ammunition manufactured since 2010 is therefore necessary to understand how regional trends shifted as a consequence of the prolonged active conflict.

Chart 10
Top manufacturing countries of post-2010 ammunition documented in Iraq and Syria



- Fifteen per cent of the total ammunition sample was produced in 2010 or later; the original sources of this ammunition (see Chart 10) differ from those of the overall sample (see Chart 6).
- Russia and Romania manufactured the largest proportions of post-2010 ammunition documented across Iraq and Syria, accounting for more than half of the entire subsample.
- The top manufacturing countries of post-2010 ammunition documented in Iraq are Romania (32 per cent), the United States (19 per cent), Russia (18 per cent), and Bulgaria (11 per cent). Combined, these producer countries account for most of the post-2010 Iraq sample.
- The Iraq sample accounts for more than 99 per cent of the US- and Romanian-manufactured post-2010 ammunition and more than 85 per cent of the post-2010 Bulgarian and Iranian ammunition that CAR documented in the region.
- More than 80 per cent of the post-2010 sample of ammunition documented in Syria was manufactured in China and Russia.

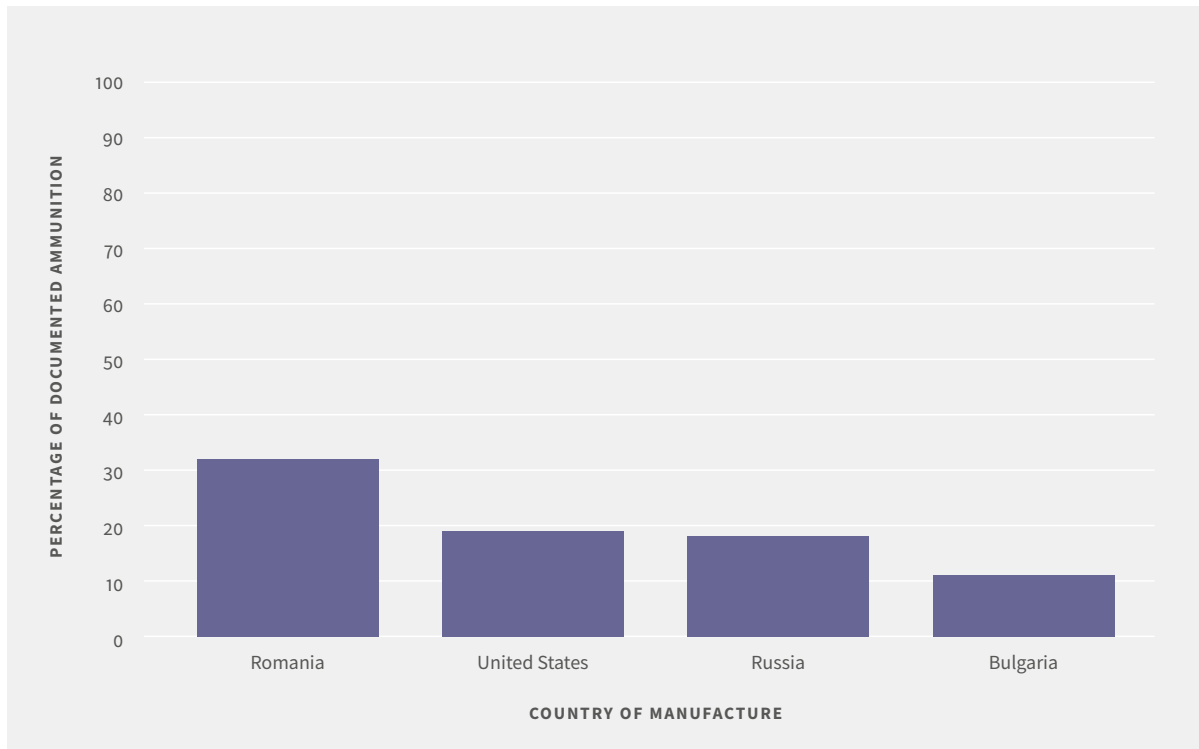
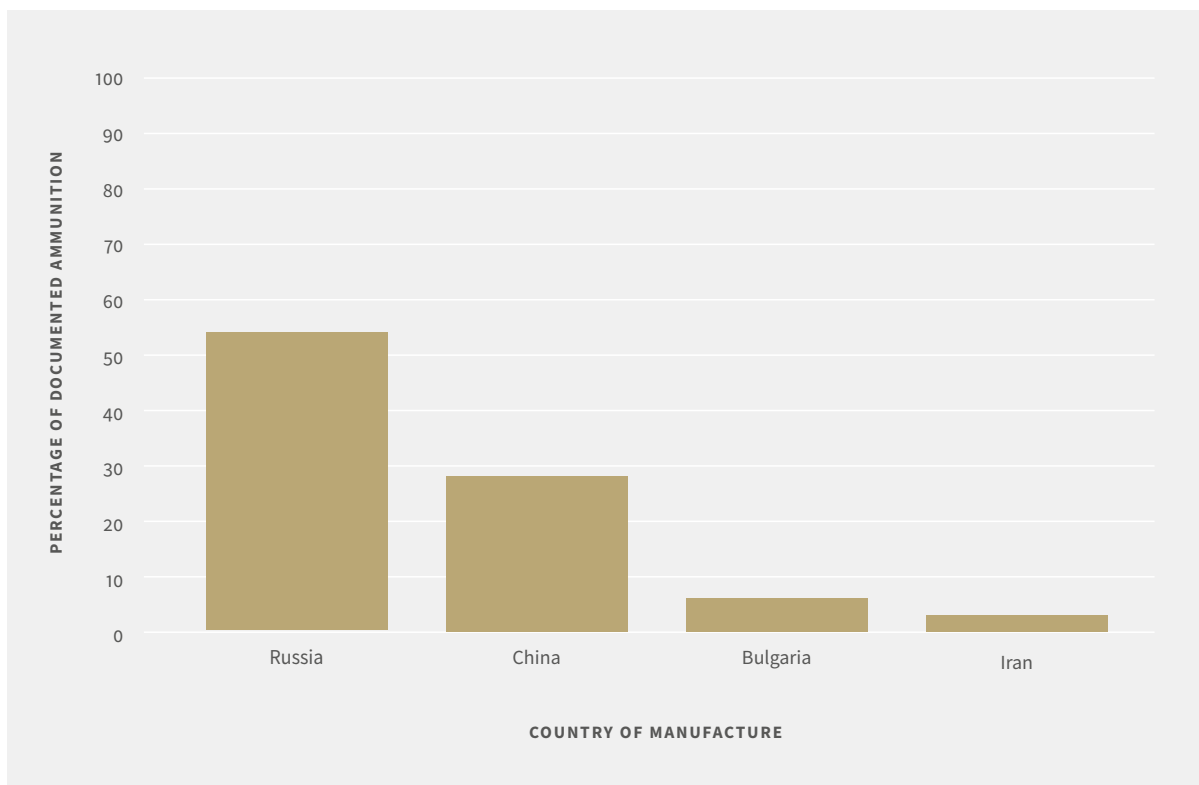
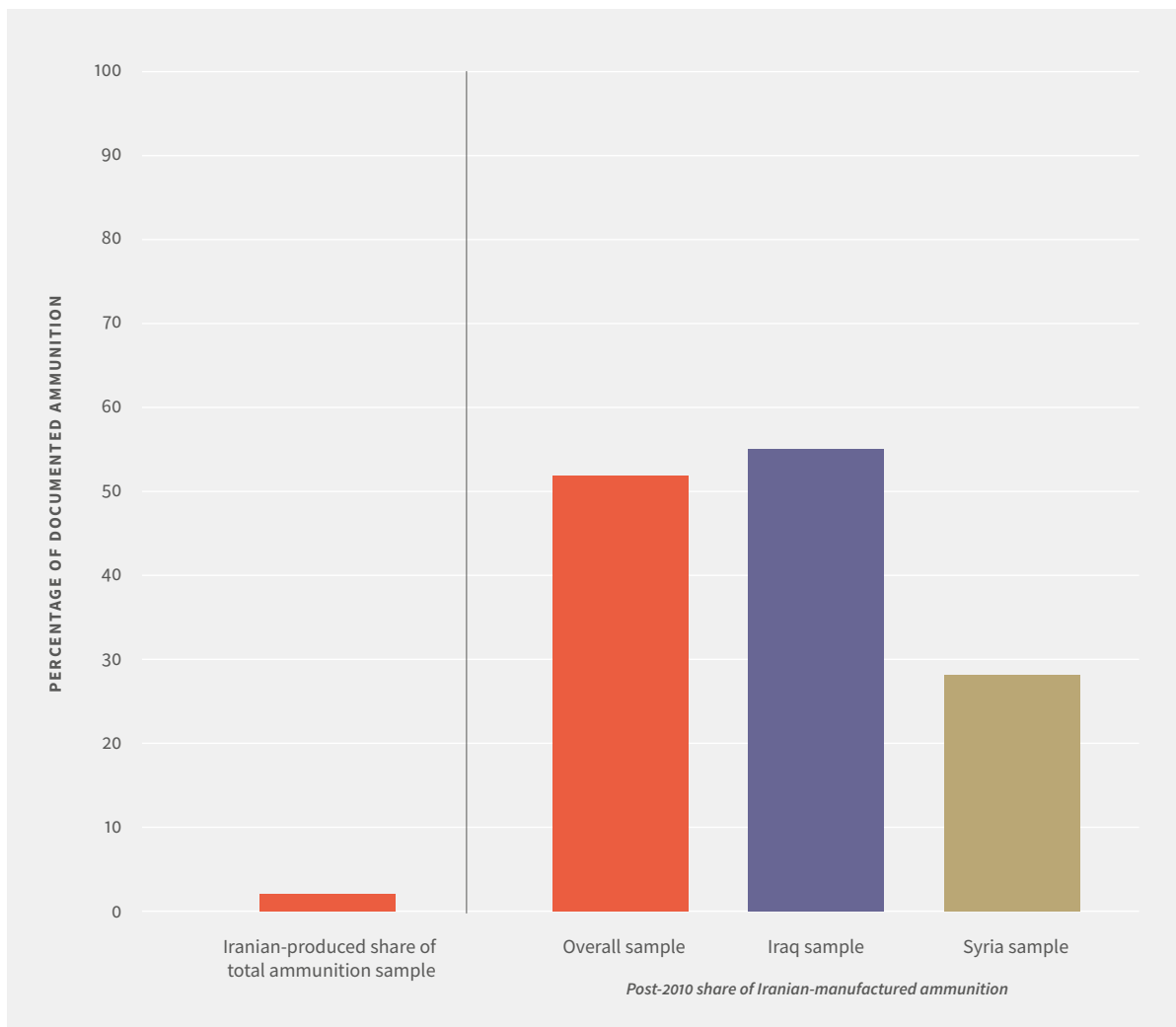
Chart 11**Top manufacturing countries of post-2010 ammunition documented in Iraq****Chart 12****Top manufacturing countries of post-2010 ammunition documented in Syria**

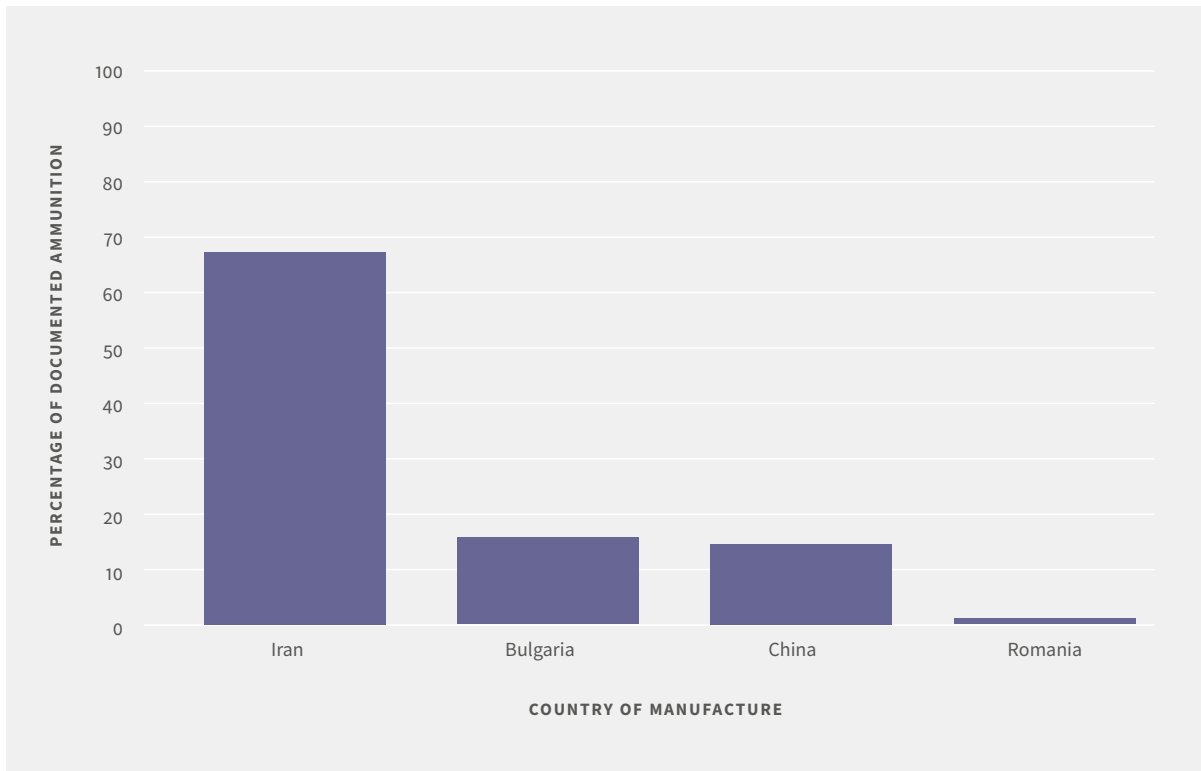
Chart 13

Iranian-manufactured ammunition documented in Iraq and Syria



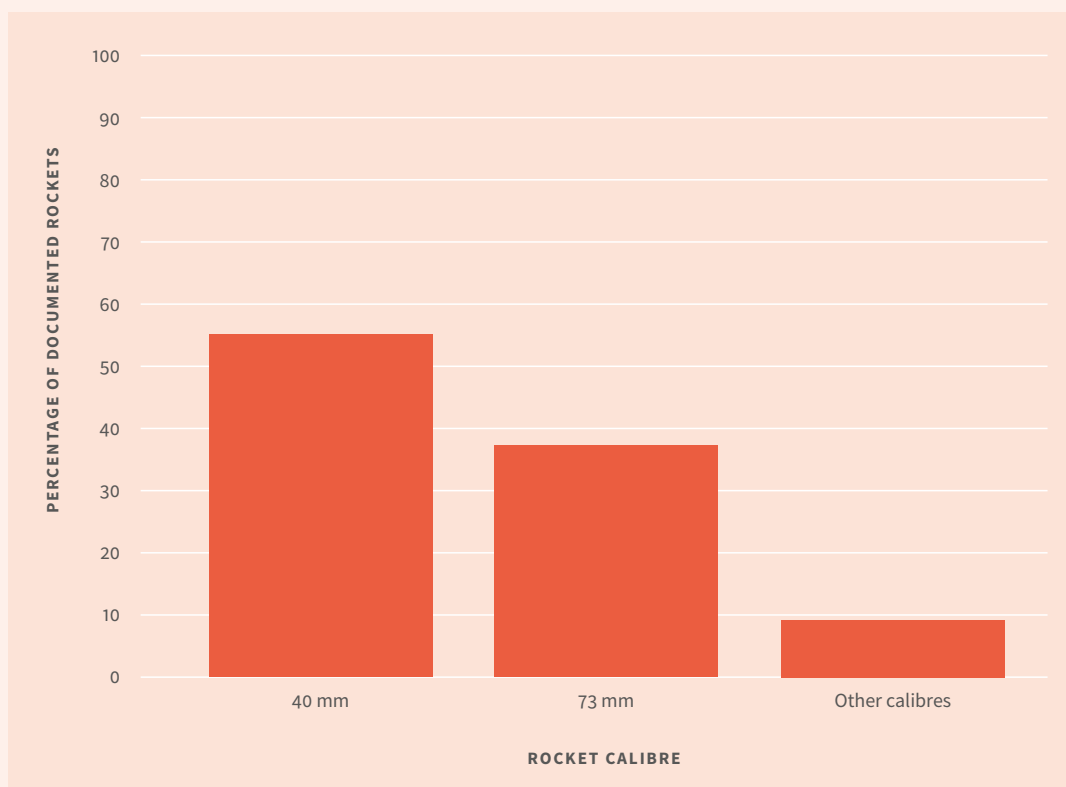
- There is considerably less evidence of EU- and US-manufactured post-2010 ammunition in Syria than in Iraq. Only 6 per cent of the Syria sample is Bulgarian, and CAR documented only one US-manufactured ammunition cartridge in Syria.
- Chinese ammunition represents 25 per cent of the entire regional ammunition sample, yet only 6 per cent of it was produced after 2010.
- The quantity of Iranian-manufactured ammunition documented is low compared to that produced in other countries. However, more than half of the total Iranian ammunition sample documented in the region was manufactured after 2010. In Iraq, 57 per cent of the Iranian-manufactured ammunition documented by CAR dates from after 2010. In Syria, the proportion is 28 per cent.
- While Iraqi post-2010 domestic production is non-existent—the 2004 Realignment of Military Industrial Companies (Coalition Provisional Authority Order Number 75)¹² put Iraqi weapon plants out of work—CAR documented 18 Syrian cartridges manufactured between 2010 and 2012 and eight cartridges manufactured in 2013. These findings indicate that, despite the ongoing civil war in Syria, the Syrian government has maintained at least some capacity to manufacture ammunition.
- A total of 212 units of the documented ammunition were manufactured in 2016. Iran produced the majority of them, followed by Bulgaria and China.

Chart 14
Ammunition manufactured in 2016 and documented in Iraq, by producing country



BOX 2: 40 MM AND 73 MM ROCKETS

Chart 15
Rockets documented in Iraq and Syria, by calibre



- Rockets constitute the second-largest group of documented ammunition but still only represent 3 per cent of the total regional sample. Together with their respective primary propelling charges, 40 mm rockets (for RPG-7-type launchers) and 73 mm rockets (for SPG-9-type recoilless guns) account for 55 per cent and 37 per cent of the regional rocket sample, respectively.¹³
- Manufacturers from Bulgaria, China, and Iran produced most of the 40 mm rockets recovered from IS forces in Iraq. In the Syria sample, Bulgarian 40 mm rockets are the most common, followed by ones from Russia, China, and Romania. EU manufacturers produced almost one-third of the 40 mm rockets recovered from IS forces in the region.
- CAR documented the majority of 73 mm rockets recovered from IS forces in Iraq. Almost 70 per cent of them were manufactured in former Warsaw Pact EU Member States, with Bulgaria and Romania accounting for 41 per cent and 28 per cent, respectively.
- China and Iran manufactured most of the post-2010 (produced in 2010 or later) 40 mm rockets that were recovered from IS forces in Iraq. As with the overall sample of 40 mm rockets, the top three manufacturers of post-2010 40 mm rockets are China, Iran, and Bulgaria, which together produced 97 per cent of the rockets.

Chart 16

40 mm rockets documented in Iraq and Syria, by country of manufacture

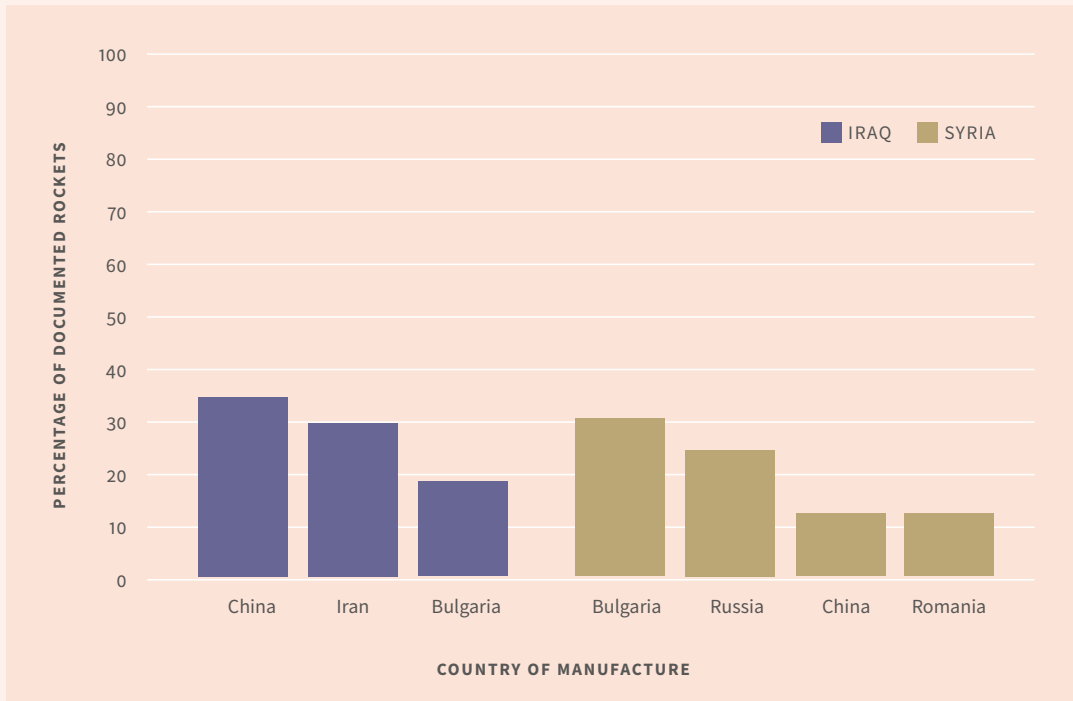


Chart 17

Top four manufacturing countries of 73 mm rockets documented in Iraq

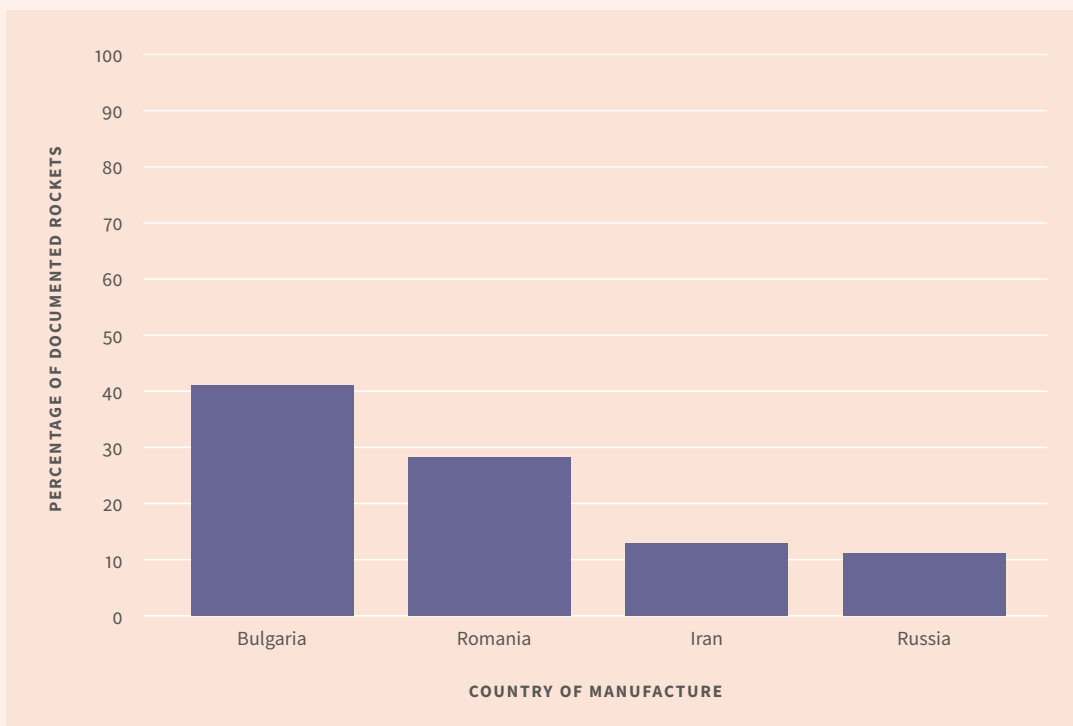
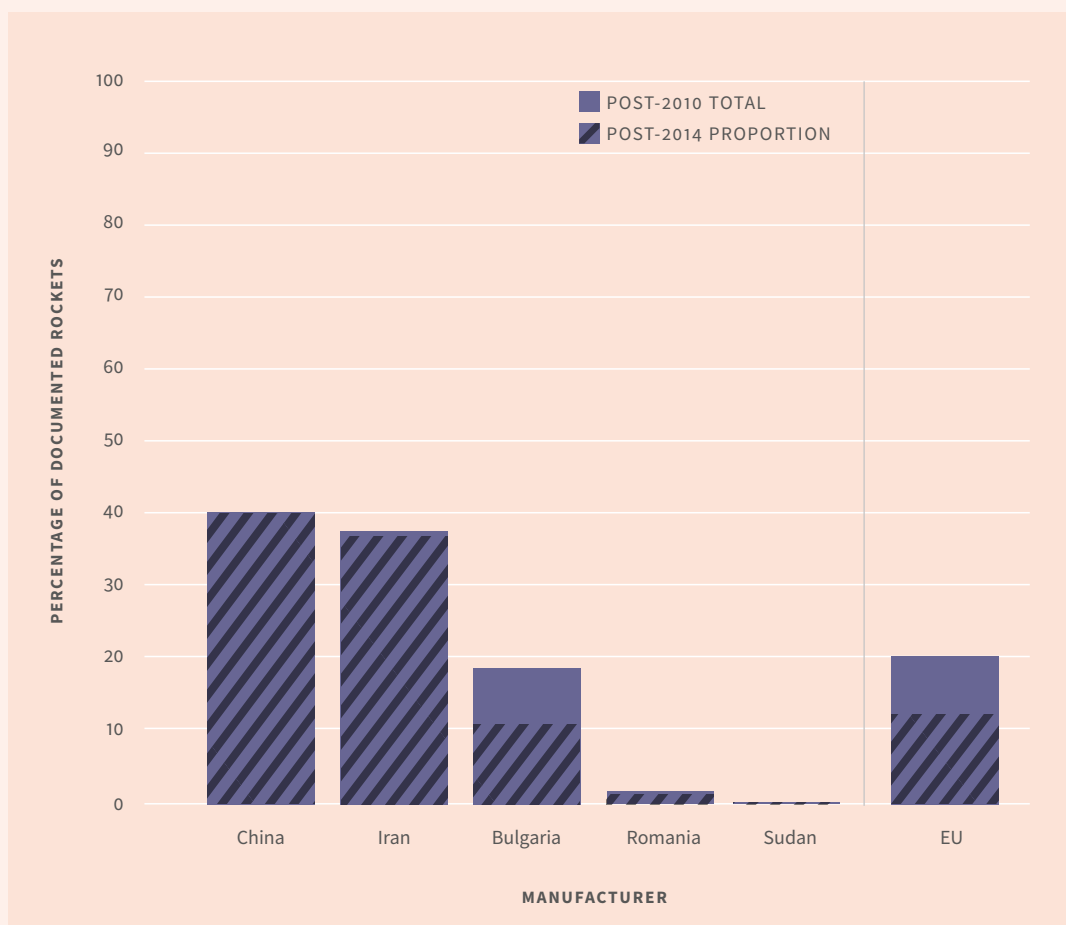


Chart 18

Top manufacturers of post-2010 and post-2014 40 mm rockets documented in Iraq



- More than one-third of the post-2010 40 mm rockets were produced in 2016, and 91 per cent of the entire post-2010 sample was manufactured between 2014 and 2016. This may reflect recent supplies of materiel to Iraqi and Syrian forces, following the fall of Mosul to IS forces in 2014, and higher levels of involvement of international actors in the region.
- The sample of 73 mm rockets differs from that of other rockets in that Chinese production accounts for a negligible proportion. Bulgaria, Iran, and Romania manufactured nearly the entire sample of post-2010 73 mm rockets documented in Iraq. Bulgaria alone manufactured almost 60 per cent of the rockets and Iran manufactured 31 per cent.
- A sizable 88 per cent of the Bulgarian post-2010 73 mm rockets were produced in 2010 and 2011, while almost all of the Romanian post-2010 73 mm rockets were produced in 2014. The patterns of diversion of these rockets to IS forces are explored in the next section of this report.
- Almost the total sample of post-2010 Iranian-made 73 mm rockets documented in Iraq were manufactured after 2014; 59 per cent of them were manufactured in 2015 alone.

Chart 19

Top manufacturers of post-2010 and post-2014 73 mm rockets documented in Iraq

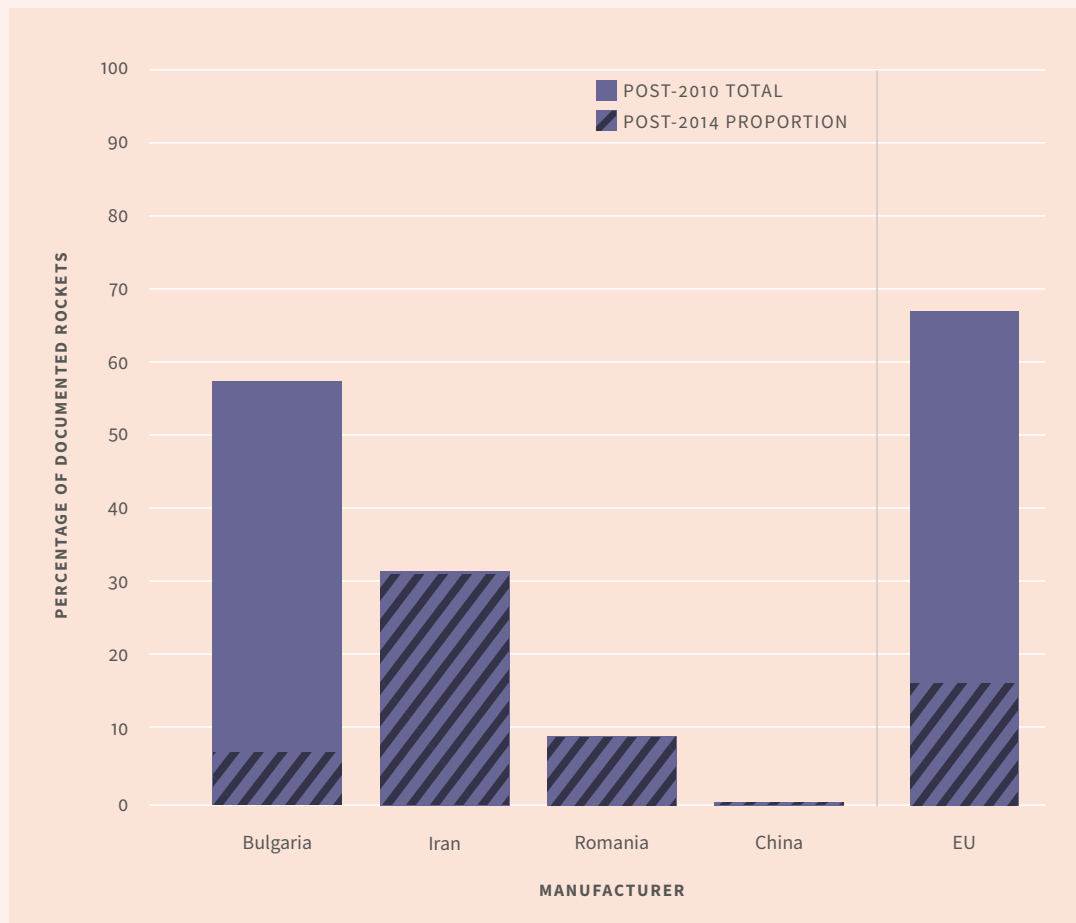


Figure 2

PG-9 73 mm rockets recovered from IS forces

Documented by a CAR field investigation team in Baghdad, Iraq, June 2016



Summary

Warsaw Pact calibres predominate in IS forces' ammunition holdings, just as they do in the weapons discussed above. In contrast to weapons, however, the ammunition holdings are significantly newer. While weapons manufactured in the current decade (2010–17) comprise less than 2 per cent of the group's total weapon holdings, more than 15 per cent of the group's ammunition dates from the 2010–17 period. There are also pronounced differences in the types of ammunition deployed by the group on either side of the Iraq–Syria border, which broadly reflect differences in the suppliers of ammunition to the Iraqi and Syrian governments. These findings appear to corroborate assertions that IS forces captured significant quantities of ammunition from Iraqi and Syrian forces—at least in the initial phases of the group's territorial expansion.

The largest part of ammunition held by the group originated in three producer countries: China and Russia—in almost equal proportions—and Romania. Chinese materiel is distributed almost evenly in Iraq and Syria (52 per cent and 48 per cent, respectively). Although roughly three-quarters (74 per cent) of the overall Russian ammunition sample was documented in Iraq, more than half (54 per cent) of the Russian ammunition produced in the 2010–14 period was recorded in Syria. It is plausible, therefore, that these findings reflect escalating Russian support to the Syrian regime during the conflict.

Similarly, post-2010 Romanian-manufactured ammunition, which has been a significant component of international efforts to re-equip Iraqi defence and security forces, is more strongly represented (more than 16 per cent) in the Iraq ammunition sample than in the Syria sample (7 per cent). In this respect, IS forces' aggregate ammunition holdings appear to reflect a broad

cross section of the types and relative quantities of ammunition in Iraqi and Syrian national stockpiles—encompassing 'legacy' ammunition dating from the 1950s to ammunition from the present day.

The fact that IS forces captured large quantities of ammunition from Iraqi and Syrian government forces is not a new finding.¹⁴ The presence of more recently produced ammunition in recovered materiel, however, provides clearer indications of additional supply sources—notably in the years following 2014, when the group's initial advances slowed and it ceased to capture large quantities of materiel, particularly from Iraqi forces.

The group's stockpile of 40 mm and 73 mm rockets manufactured since 2010 is illustrative. EU Member States produced 40 per cent of these rockets. An EU arms embargo, in force since May 2011, prohibits supplies to the Syrian regime and CAR has confirmed significant numbers of these rockets do not originate from Iraqi defence and security forces. This finding, together with the results of formal traces launched by CAR, confirms that IS forces progressively tapped into alternative sources of ammunition during the course of the conflict—notably into foreign supplies intended for Syrian opposition forces, as the following section illustrates.

ISLAMIC STATE FORCES PROGRESSIVELY TAPPED INTO ALTERNATIVE SOURCES OF AMMUNITION DURING THE COURSE OF THE CONFLICT.



DIVERSION DYNAMICS

En route diversion happens when weapons are delivered to a party that is not the declared end user. Post-shipment diversion occurs when the lawful custodians (the intended end users) of weapons and ammunition either lose or yield custody of materiel, resulting in its acquisition by unauthorised end users. A number of different weapon diversion dynamics, which are common to most armed conflicts involving non-state groups, apply to IS forces' acquisition of weapons. These include significant battlefield capture from government and other non-state forces and

unauthorised retransfers—supplies of weapons by states in violation of agreements made with original supplier governments—to non-state forces in the Syrian conflict.

The following sections explore these dynamics. They first review the limited available information on Iraqi and Syrian government weapon stockpiles and then underscore the critical role of weapons supplied by foreign governments to Syrian opposition forces as a significant source of weapons in service with IS forces.

BATTLEFIELD CAPTURE

Open-source reports and video footage issued by IS forces claim that the group captured a large proportion of its weapons and ammunition from Iraqi and Syrian security forces.¹⁵ While CAR does not dispute these assertions, it is difficult to substantiate the claims empirically (see 'Weapon baseline data' and 'Ammunition baseline data', above), for two main reasons. First, Iraqi and Syrian forces employ a wide variety of weaponry, which the two states acquired over many decades and from numerous producing and exporting countries. This makes it difficult to determine, with any accuracy, whether specific items recovered from IS forces either originated in Iraqi or Syrian national stockpiles, or whether they derive from national armed forces or non-state groups elsewhere in the region. Second, national records are incomplete in Iraq and inaccessible in Syria, precluding verification of national holdings.

Working from a combination of physical evidence, official procurement notices, and the responses of supplier governments to formal trace requests, CAR can assert the following:

- Of the 67 replies from manufacturing or supplier governments in response to CAR's requests to trace weapons documented in Iraq and Syria (prior to 16 November 2017), 42 indicate that the materiel was originally sold to the Iraqi government. Most of these weapons were presumably captured by IS forces on the battlefield.
- In Iraq and Syria, CAR documented a total of 171 weapons that bear an Iraqi arsenal mark. This unique import mark indicates that the weapons were integrated into Iraqi defence and security force stockpiles prior to the fall of the Iraqi regime in 2003.



These two findings indicate that, at the very least, 12 per cent of the weapons recovered from IS forces originate from Iraqi national stockpiles. The group captured a large proportion of this stockpile during major offensives against Iraqi armed forces in the Mosul region in mid-2014. CAR field investigation teams, which were on the ground in both Iraq and Syria at the time, obtained some clues regarding the role this materiel might have played in IS forces' subsequent military gains.

IS forces immediately moved weapons and ammunition from the Mosul area to support military offensives against the YPG-held Syrian city of Kobane (under siege from 13 September 2014 to 27 January 2015). CAR field investigation teams operating in Kobane in the immediate aftermath of the siege (February 2015) documented, and subsequently traced, the following items:

- a PG-7M 40 mm rocket, which Bulgaria legally exported as part of two larger shipments to the Ministry of Defence of Iraq on 7 September 2010 and 14 March 2011;¹⁶
- an MG-M1 7.62 x 54R mm machine gun, which Bulgaria legally exported to the Iraqi Ministry of Defence on 21 April 2005;¹⁷ and
- 19 boxes of 7.62 x 54R mm ball ammunition supplied legally by Serbia to the Multi-National Security Transition Command–Iraq on 3 December 2004, for use by Iraqi security forces. In its response to CAR, the Serbian government noted that the materiel exported to Iraq after the military intervention in 2003 was part of the international community's efforts to equip and strengthen the capacity of the Government of Iraq.¹⁸

Figure 3

A Bulgarian PG-7M 40 mm rocket from a lot exported to Iraq in two separate shipments in 2010 or 2011

Documented by a CAR field investigation team in Kobane, Syria, February 2015



Figure 4

A Bulgarian MG-M1 7.62 x 54R mm machine gun exported to Iraq in 2005

Documented by a CAR field investigation team in Kobane, Syria, February 2015



These findings, and the widespread use by IS forces of a range of captured Iraqi army equipment during the siege of Kobane—including US-supplied

armoured vehicles—confirm the initial impact of battlefield capture in Iraq on the group's war fighting capacity farther afield.¹⁹

Figure 5

Boxes of Serbian 7.62 x 54R mm ball ammunition supplied to the Multi-National Security Transition Command–Iraq on 3 December 2004

Documented by a CAR field investigation team in Kobane, Syria, February 2015



Figure 6

A US M1114 truck, recovered from IS forces in Kobane during the siege of the city in 2014–15

Documented by a CAR field investigation team in Kobane, Syria, February 2015



Much less can be said definitively about captures of weapons and ammunition from Syrian government forces, beyond quantitative assessments of ammunition types (see above). Syrian government weapons, unlike pre-2003 Iraqi weapons, do not feature import marks. Loose small-calibre ammunition—found by CAR in abundance in Syria—does not feature traceable lot numbers.

However, Syrian-manufactured ammunition deployed by IS forces probably originates from Syrian government forces. A large quantity of recently manufactured Russian ammunition (more than 50 per cent of the post-2010-manufactured Syria sample) also suggests extensive capture from Syrian government forces. These factors, combined with reports and video footage of IS forces' gains against Syrian forces, indicate that battlefield capture from Syrian forces is a significant source of IS forces' weapons and ammunition.

BOX 3: WOLF AMMUNITION

At least three factories have manufactured Wolf ammunition, including the Barnaul Cartridge Plant (Russia), Tula Cartridge Works (Russia), and Lugansk Cartridge Works (Ukraine). Sporting Supplies International initially marketed this ammunition on the civilian market in the United States. Wolf ammunition from all three factories is also in service with military and non-state forces in Afghanistan, Iraq, and, to a lesser extent, parts of sub-Saharan Africa. Cartridges

manufactured by the various factories differ in bullet and headstamp design, and weight.

Since July 2014, CAR has repeatedly documented Wolf ammunition and packaging for both military and commercial sales, in 7.62 x 39 mm and 7.62 x 54R mm calibres, throughout Iraq and Syria (see Map 2). Russian factories manufactured the lots CAR documented, which date from 2007, 2008, and 2010.

Figure 7

7.62 x 39 mm Wolf ammunition cartridges produced by Barnaul Cartridge Plant (left) and Tula Cartridge Works (right)

Documented by CAR field investigation teams in Tanooria, Syria (left), and in Majid Younis, Iraq (right), December 2014



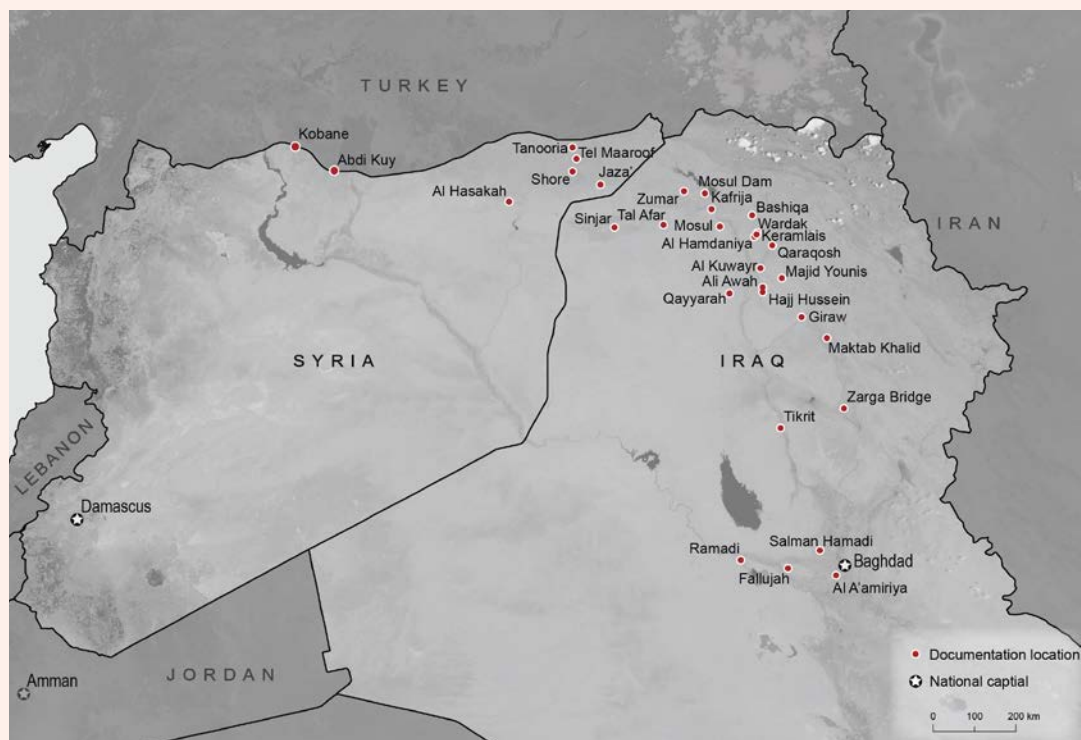
Although Russia has not yet replied to CAR trace requests for these items, CAR believes they originated from Iraqi state stockpiles. On 28 June 2007, the US Department of the Army issued a request for proposal (RFP) W52P1J07R0104 for various types of non-standard ammunition for the Islamic Republic of Afghanistan, Afghanistan National Security Forces, and the Government of Iraq.²⁰ The RFP had two requirement items for Iraq, and each included 7.62 x 39 mm and 7.62 x 54R mm cartridges in large quantities.²¹ The US company GSS, of Las Vegas, Nevada, was awarded the contract's requirement 'B' for Iraq²² at a cost of USD 25,977,161.²³ GSS is an affiliate of Sporting Supplies International, which owns the trademark Wolf Performance Ammunition.²⁴

CAR documented 7.62 x 39 mm Wolf ammunition produced in Russia in 2008 with lot number P277 recovered from IS forces in Jaza' (Syria) in September 2014, Kobane (Syria) in January 2015, Al Hasakah (Syria) in

BASED ON THE PRESENCE OF WOLF AMMUNITION WITH THE SAME LOT NUMBER IN THESE LOCATIONS, CAR USED LOT NUMBER CORRELATIONS TO IDENTIFY CORRIDORS THROUGH WHICH ISLAMIC STATE FORCES TRANSFERRED DIVERTED MATERIEL.

May 2015, Mosul (Iraq) in October 2016, and Keramlais (Iraq) in October 2016. Based on the presence of Wolf ammunition with the same lot number in these locations, CAR used lot number correlations to identify corridors through which IS forces transferred diverted materiel (see 'Identified correlations', below).

Map 2
Locations where CAR documented Wolf ammunition



In addition to obtaining weapons from national stockpiles in Iraq and Syria, IS forces demonstrated the ability to benefit from the weapon supply chains put in place by the many third-party states

invested in the regional conflict.²⁵ Since July 2014, CAR has documented several of these key diversion pipelines.

CONFIRMED SUPPLIERS OF DIVERTED MATERIEL

IS forces deploy a range of weaponry that can be traced to transfers destined for opposition forces in the Syrian conflict. While the exact circumstances of direct supply across Syria's borders are unclear, the Jordanian and Turkish governments have each acted as intermediaries in the provision of weapons purchased by Saudi Arabia and the United States. Background information gathered by CAR indicates that IS forces acquired the materiel through varied means, including battlefield capture and the amalgamation of disparate Syrian opposition groups. CAR cannot rule out direct supply to IS forces from the

territories of Jordan and Turkey, especially given the presence of various opposition groups, with shifting allegiances, in cross-border resupply locations.

IS forces subsequently moved much of this materiel to Iraq for use against coalition forces in their defence of cities such as Fallujah, Mosul, and Ramadi. Physical examinations, weapon shipment interceptions, and government responses to formal weapon traces issued by CAR reveal a number of different supply circumstances.

United States

CAR has documented and traced numerous weapon systems in service with IS forces. Many derive from shipments made to the US government, or to entities operating under US government contracts. The United States has acknowledged its support to Syrian opposition forces, orchestrated primarily through resupply from the territories of Jordan and Turkey.²⁶ All of the shipments originated in EU Member States; in most cases, US retransfers (exports made after purchase by the United States) contravened clauses in end-user certificates (EUCs) issued by the United States to EU supplier governments. The United States signed these certificates prior to transfer, stated that it was the sole end user of the materiel, and committed not to retransfer the materiel without the supplier government's prior consent. It did not notify the supplier states concerned before retransferring the materiel.

Non-retransfer clauses in EUCs are designed explicitly to provide a measure of confidence for exporting states that seek to abide by international commitments to mitigate weapon diversion. In the case of EU Member States, the clauses align with commitments made under Criterion Seven of the EU Common Position, which defines common rules governing the control of weapon exports, and commits Member States to assessing 'the record of the recipient country in respecting any re-export provision' (that is, compliance with non-retransfer clauses) before licensing further

exports.²⁷ EU Member States and the United States are also signatories to the Arms Trade Treaty, in which non-retransfer clauses fall under the rubric of 'confidence building measures' and additional 'assurances' aimed at preventing diversion. The ATT is robust in asserting that any state shall take measures to address diversion if detected.

Documented cases of US-procured materiel subsequently diverted to IS forces are as follows:

Case 1

During the battle of Ramadi (25 November 2015–9 February 2016), Iraqi Federal Police recovered a Bulgarian-manufactured 9M111MB-1 ATGW missile tube from IS forces; CAR documented the item on 18 February 2016. Bulgaria confirmed it exported the tube on 12 December 2015 to the US Department of the Army through the US company

IN MOST CASES, US RETRANSFERS CONTRAVENED CLAUSES IN END-USER CERTIFICATES ISSUED BY THE UNITED STATES TO EU SUPPLIER GOVERNMENTS.

Kiesler Police Supply (see Box 4). The application for the licence was accompanied by the original EUC issued by the US Department of the Army, which specifies that the United States would be the end user of the item, along with a delivery verification certificate.²⁸ The United States has not yet replied to a CAR trace request for this item.

The fact that the ATGW that CAR documented on 18 February 2016 in Iraq had been exported to the United States on 12 December 2015 and recovered in Ramadi on 9 February 2016 indicates that diversion took place in a matter of days or weeks (between 1 and 59 days) after its supply.

On 21 December 2016, Jaysh al-Nasr, a Syrian armed opposition faction active in the Hama Governorate of Syria, published a set of photographs of its fighters.²⁹ In one of these, Jaysh al-Nasr fighters are operating a 9M111MB-1 ATGW³⁰ bearing an identical lot number and a serial number (365) close in sequence to the one CAR documented (286) in Iraq, suggesting both were part of the same supply chain.

Figure 8

A Bulgarian 9M111MB-1 ATGW missile tube exported to the US Army on 12 December 2015

Documented by a CAR field investigation team in Al Khalidiyah, Iraq, February 2016



Figure 9

Jaysh al-Nasr fighters operate a 9M111MB-1 ATGW in Syria

Source: Jaysh al-Nasr (2016)



Figure 10

A detail of the marks on the 9M111MB-1 ATGW missile tube

Source: Jaysh al-Nasr (2016)



Case 2

In the last phase of the battle for eastern Mosul, in January 2017, Iraqi Special Operations Forces recovered another 9M111MB-1 ATGW missile tube from IS forces, but this one features a different lot number. Bulgaria confirmed the item was sold to a Bulgarian export company, which subsequently exported it to the US Department of the Army on an unspecified date.³¹ The United States has not yet replied to a CAR trace request for this item.

The two cases presented above show that the United States retransferred successive batches of ATGWs.

Figure 11

A Bulgarian 9M111MB-1 ATGW missile tube exported to the US Army on an unspecified date

Documented by a CAR field investigation team in Bartella, Iraq, February 2017



Case 3

In May 2015, Syrian YPG forces recovered a PG-7T 40 mm rocket from IS forces near Al Hasakah, Syria, where CAR documented it on 20 May 2015. The Government of Bulgaria confirmed that it exported the item to the US Department of the Army through the US company Kiesler Police Supply. The application for the export licence was accompanied by the original EUC issued by the US Department of the Army (with a non-re-export clause) as well as a delivery verification certificate. The item was exported on 23 June 2014.³²

Iraqi Federal Police recovered another PG-7T 40 mm rocket from IS forces during the battle of Ramadi. It bears the same lot number, as documented by a CAR field investigation team on 20 February 2016.

As with the item documented in May 2015, Bulgaria confirmed it also exported this rocket on 23 June 2014 to the US Department of the Army through Kiesler Police Supply.³³ CAR has yet to receive a reply to a trace request sent to the United States regarding these rockets.

Finding further evidence of the diversion of this materiel, CAR documented three other identical PG-7T 40 mm rockets in Baghdad on 4 May 2017. The Iraqi Directorate of Military Intelligence recovered the items south of Baghdad in June 2016.

Figure 12

A Bulgarian PG-7T 40 mm rocket exported to the US Army on 23 June 2014

Documented by a CAR field investigation team in Al Hasakah, Syria, May 2015



Figure 13

A Bulgarian PG-7T 40 mm rocket exported to the US Army on 23 June 2014

Documented by a CAR field investigation team in Habbaniyah, Iraq, February 2016



Figure 14

Three Bulgarian PG-7T 40 mm rockets exported to the US Army on 23 June 2014

Documented by a CAR field investigation team in Baghdad, Iraq, May 2017



Case 4

On 31 August 2014, near Tuz Khurma, Iraq, Peshmerga forces recovered a Romanian Mitraliera md. 66 7.62 x 54R mm medium machine gun, which CAR documented on 14 December 2014. Romania confirmed the item was part of an authorised export to the US Department of the Army³⁴ through a US company. The Romanian Department for Export Controls received an EUC (which included

a non-re-export clause) issued by the US Army on 10 August 2012, in support of the export licence application. The export licence was issued on 22 November 2012 for the export of 250 machine guns, along with other undisclosed items. The materiel was exported on 6 December 2012 via air (destination undisclosed).³⁵ CAR has yet to receive a reply to requests sent to the United States.

Figure 15

A Romanian Mitraliera md. 66 7.62 x 54R mm medium machine gun exported to the US Army on 6 December 2012

Documented by a CAR field investigation team in Kani Hanjiri, Iraq, December 2014



BOX 4: KIESLER POLICE SUPPLY

Kiesler Police Supply was incorporated in the US state of Indiana in 1975 as Kiesler Hardware & Supply. The company changed its name to Kiesler Police Supply in 1980 in order to begin dealing primarily in firearms and ammunition. On its website, Kiesler Police Supply only advertises itself as providing equipment to US national law enforcement agencies. However, the company has been contracted in the past to supply weapons to Iraq. In 2004, Kiesler Police Supply was awarded a multi-million

dollar contract to provide weapons such as AK-pattern assault rifles and ammunition to Iraqi security forces.³⁶ On 4 October 2016, CAR called Kiesler Police Supply to request further information regarding the multiple weapon transfers described in this report. The company declined to comment. On 20 October 2016, CAR emailed and faxed an information request for all the items traced to Kiesler Police Supply. The company has yet to respond to CAR's request for information.

Case 5

On 26 June 2016, Iraqi Special Operations Forces recovered several PG-9 73 mm rockets from IS forces in Fallujah, Iraq; CAR documented them on 30 June 2016. The government of Romania confirmed that these rockets were exported to the US Department of the Army on 13 and 15 December 2013,³⁷ 25 and 27 March 2014³⁸ (5,220 rockets), 5 and 17 June 2014³⁹ (2,070 rockets), and 4 December 2014⁴⁰ (9,252 rockets).⁴¹ These items were transferred to the United States under EUCs,

each of which included a non-re-export clause. In September 2017, while continuing to document the diversion of these items, CAR found dismantled PG-9 73 mm rockets of the same lot in an IS workshop in Tal Afar, Iraq, and recovered from IS positions in the Al Jamhuri Hospital compound in western Mosul; Romania had exported the items in June and December 2014. The United States has not yet replied to a CAR trace request for these items.

Figure 16

A Romanian PG-9 73 mm rocket from lot number 21-13-459, exported to the US Army on 13 and 15 December 2013

Documented by a CAR field investigation team in Baghdad, Iraq, June 2016



Figure 17

A Romanian PG-9 73 mm rocket from lot number 22-13-459, exported to the US Army on 25 and 27 March 2014

Documented by a CAR field investigation team in Baghdad, Iraq, June 2016



Figure 18

A Romanian PG-9 73 mm rocket from lot number 11-14-451, exported to the US Army on 5 and 17 June 2014

Documented by a CAR field investigation team in Baghdad, Iraq, June 2016



Figure 19

A Romanian PG-9 73 mm rocket from lot number 12-14-451, exported to the US Army on 4 December 2014

Documented by a CAR field investigation team in Baghdad, Iraq, June 2016



In July 2016, IS forces based in the group's 'Al Furat' province⁴² released a propaganda video⁴³ featuring materiel captured from a Syrian armed opposition group, Jaysh Suriyah al-Jadid (New Syrian Army), after it repelled the group's attack near Al Bukamal, by the Iraqi border, in late June 2016. In the video, a crate of Romanian 73 mm rockets is visible. It bears the lot number 12-14-451, the same lot number

transferred to the US Department of the Army on 4 December 2014. Jaysh Suriyah al-Jadid was armed and trained by the United States to fight IS forces in eastern Syria. The lot number of the ammunition captured by IS forces in Al Bukamal matches the lot number of the ammunition recovered from an IS convoy near Fallujah in late June 2016, and found in IS positions in Tal Afar and Mosul.

Figure 20

A crate of Romanian PG-9 73 mm rockets captured from Jaysh Suriyah al-Jadid by IS forces near Al Bukamal in June 2016

Source: IS (n.d.)



Figure 21

A detail of a crate of Romanian PG-9 73 mm rockets captured from Jaysh Suriyah al-Jadid by IS forces near Al Bukamal in June 2016

Source: IS (n.d.)



THE LOT OF THE AMMUNITION CAPTURED BY IS FORCES IN AL BUKAMAL MATCHES THE LOT NUMBER OF THE AMMUNITION RECOVERED FROM AN ISLAMIC STATE CONVOY NEAR FALLUJAH IN LATE JUNE 2016.

Case 6

On 24 July 2017, Iraqi security forces recovered a Romanian PG-7PM 40 mm primary propelling charge from IS forces in Rutba, in western Iraq, near the borders of Jordan, Saudi Arabia, and Syria. Romania confirmed that it authorised export of the charge, which bears the lot number 22-14-451, to the US Department of the Army, together with 11,634 PG-7M 40 mm rockets bearing the lot number 12-14-451. For this transfer, the US Department of the Army issued an EUC that included a non-re-export clause. Romania delivered the item on 4 December 2014.⁴⁴

Case 7

In September 2017, a CAR field investigation team documented a Romanian PG-7M 40 mm rocket in a workshop that was used by IS forces in Tal Afar until late August 2017. Romania affirmed that it was part of a consignment of 7,380 PG-7M 40 mm rockets delivered to the US Department of the Army on 27 November 2015, under an EUC that included a non-re-export clause.⁴⁵

Figure 22

A Romanian PG-7PM 40 mm primary propelling charge with the lot number 22-14-451

Documented by a CAR field investigation team in Baghdad, Iraq, September 2017



Figure 23

A Romanian PG-7M 40 mm rocket with the lot number 16-15-452

Documented by a CAR field investigation team in Tal Afar, Iraq, September 2017



Case 8

On 27 September 2017, a CAR field investigation team documented a Romanian PG-9 73 mm rocket at the Al Jamhuri Hospital compound in western Mosul. IS forces had modified the rocket to fire it from their Model 2 recoilless launcher system.⁴⁶ Romania affirmed that it was part of a consignment of 7,356 PG-9 73 mm rockets delivered to the US Department of the Army on 10 March 2016, under an EUC that included a non-re-export clause.⁴⁷

Case 9

The government of Romania confirmed that 72 PG-9 73 mm rockets with three different lot numbers that CAR documented after they were recovered from IS forces in Fallujah were exported to the US company United International Supplies on 23 April 2003.⁴⁸ CAR documented additional rockets with the same lot numbers in November 2016 in Keramlais, near Mosul, and in September 2017 in the Al Jamhuri Hospital compound in western Mosul. They were part of the same 2003 shipment. The shipment to United International Supplies also included 7.62 x 39 mm ammunition that CAR documented in the Puntland region of Somalia in 2017. The ammunition was reportedly trafficked from Yemen to Somalia, where it was allegedly destined for Islamic State in Somalia forces.⁴⁹

Figure 24

A modified Romanian PG-9 73 mm rocket with lot 21-16-453, part of a Model 2 recoilless launcher system designed by IS forces

Documented by a CAR field investigation team in Mosul, Iraq, September 2017

**Figure 25**

A Romanian PG-9 73 mm rocket with lot number 11-03-458, exported to the US company United International Supplies on 23 April 2003

Documented by a CAR field investigation team in Baghdad, Iraq, June 2016



Figure 26

A Romanian PG-9 73 mm rocket with lot number 11-03-458, exported to the US company United International Supplies on 23 April 2003

Documented by a CAR field investigation team in western Mosul, Iraq, September 2017



Figure 27

A Romanian PG-9 73 mm rocket with lot number 12-03-458, exported to the US company United International Supplies on 23 April 2003

Documented by a CAR field investigation team in Baghdad, Iraq, June 2016



Figure 28

The motor of a Romanian PG-9 73 mm rocket with lot number 12-03-458, exported to the US company United International Supplies on 23 April 2003

Documented by a CAR field investigation team in western Mosul, Iraq, September 2017



Figure 29

A Romanian PG-9 73 mm rocket with lot number 13-03-458, exported to the US company United International Supplies on 23 April 2003

Documented by a CAR field investigation team in Baghdad, Iraq, June 2016

**Figure 30**

A Romanian PG-9 73 mm rocket with lot number 13-03-458, exported to the US company United International Supplies on 23 April 2003

Documented by a CAR field investigation team in Keramlais, Iraq, November 2016

**Case 10**

Romania exported a PG-7 40 mm rocket recovered from IS forces in Mahmudiyah, near Baghdad, in 2016, an AKM⁵⁰ 7.62 x 39 mm rifle recovered in Mosul in November 2016, PG-7 40 mm rockets recovered in Ramadi in 2016 and Tal Afar in 2017, and a PG-7P primary propelling charge to United

International Supplies on 16 January 2003,⁵¹ 16 November 2002,⁵² and 20 November 2002,⁵³ respectively. The export licences were granted on the basis of international import certificates (IICs).⁵⁴

Figure 31

A Romanian PG-7 40 mm rocket with lot number 13-02-457, exported to the US company United International Supplies on 16 January 2003

Documented by a CAR field investigation team in Mahmudiyah, Iraq, September 2016



Figure 32

A Romanian AKM 7.62 x 39 mm assault rifle, exported to the US company United International Supplies on 16 November 2002

Documented by a CAR field investigation team in Bartella, Iraq, November 2016



Figure 33

A Romanian PG-7 40 mm rocket with lot number 12-02-457, exported to the US company United International Supplies on 20 November 2002

Documented by a CAR field investigation team in Baghdad, Iraq, May 2017



Figure 34

The motor of a Romanian PG-7 40 mm rocket with lot number 12-02-457, exported to the US company United International Supplies on 20 November 2002

Documented by a CAR field investigation team in Tal Afar, Iraq, September 2017



Materiel data sheets provided by Romania indicate that the shipments comprised a total of 15,210 items in the category 'Rocket, PG-9V, 73 mm, HEAT'; 22,000 items identified as 'Rifle, AK-47, 7.62 x 39 mm, fixed stock', of which 12,000 were delivered; and 20,000 items described as 'Rocket, PG-7V, 40 mm, AT'.⁵⁵ The IICs were signed by representatives of United International Supplies,⁵⁶ the director of which played a role in the Iran-Contra affair.⁵⁷ United International Supplies has yet to reply to CAR's requests for information.

CAR documented one of the PG-7 40 mm rockets traced to United International Supplies alongside three rockets of different ages, types, and manufacturers. All four rockets were packed identically, within heat-sealed polyethylene bags, with a distinctive 'L' shape at one end. The heating

bar used to seal all the bags had left a distinctive 'waffle' pattern on the seal, which is most visible adjacent to the 'L' shape. All the bags were still sealed at the time of documentation and had to be cut open by the CAR field investigation team. Several pieces of evidence indicate that the bags were not original factory packaging. Not only did the bags contain rockets produced by a variety of manufacturers, but the rockets also had non-standard features: 1) newer rockets were fitted with older fuzes (in one case, 43 years older), and 2) the fuze cover caps originated from different sources, including factory-manufactured caps and improvised caps that were fabricated by cutting tubular 40 mm primary propelling charge containers, both of cardboard or plastic construction, to 45 mm lengths.

Figure 35

Four different rockets packed within heat-sealed polyethylene bags sharing identical features

Documented by a CAR field investigation team in Baghdad, Iraq, May 2017



Case 11

On 29 June 2016, Iraqi Ground Forces Command units recovered two tins containing Romanian 12.7 x 108 mm armour-piercing, incendiary ammunition from an IS convoy near Fallujah. Romania confirmed the ammunition was authorised for export to the US Department of the Army under an EUC, and that it was delivered on 24 November 2014.⁵⁸ The United States has not yet replied to a CAR trace request for this item.

Case 12

On 3 February 2017, a CAR field investigation team documented a Bulgarian-manufactured PG-7T 40 mm rocket next to the body of a recently killed IS fighter at Mosul University. On 12 March 2017, while battling IS forces in western Mosul, the Iraqi Rapid Response Division recovered an identical rocket bearing the same lot number. Bulgaria confirmed that a Bulgarian company exported PG-7T rockets with this lot number to the US Department of the Army on an unspecified date.⁵⁹ The United States has not yet replied to a CAR trace request for these items.

Figure 36

A tin of Romanian 12.7 x 108 mm armour-piercing, incendiary ammunition delivered on 24 November 2014 to the US Army

Documented by a CAR field investigation team at Al Taqaddum base, Iraq, July 2016



Figure 37

A Bulgarian PG-7T 40 mm rocket, exported to the US Army on an unspecified date

Documented by a CAR field investigation team in eastern Mosul, Iraq, February 2017



Figure 38**A Bulgarian PG-7T 40 mm rocket, exported to the US Army on an unspecified date***Documented by a CAR field investigation team in Al Arij, Iraq, March 2017*

To supply partner forces with ammunition, the US Army relies on the Office of Product Director for Non-Standard Ammunition, which falls under the Project Manager for Maneuver Ammunition Systems within the Program Executive Office Ammunition at Picatinny Arsenal, in the US state of New Jersey. The Army's Office of Product Director for Non-Standard Ammunition relies on a contract it has with Orbital ATK and Chemring Military Products, companies that rely on subcontractors, with procurement in Eastern Europe.⁶⁰ Weapons procurement goes through Project Manager for Soldier Weapons within the Program Executive Office Soldier, also at Picatinny Arsenal.⁶¹

Although the United States has supplied Iraqi forces with non-NATO standard materiel, the following evidence indicates that the US Department of the Army has also diverted EU-manufactured materiel to groups fighting in Syria:

- the presence of this materiel with Syrian armed opposition groups that were supported by the United States;
- the presence of identical materiel recovered from IS forces in Iraq, with the same lot number and serial numbers close in sequence (implying a transfer by IS of similar materiel from one country to the other, after its capture);
- the materiel's short chain of custody from export to recovery from IS forces, implying a very limited number of intermediaries;
- the absence of similar materiel observed in Iraqi stocks; and
- the identification of the United States on EUCs.



Summary

The United States has relied on brokers to supply weapons and ammunition to partner countries via Eastern Europe for years. Companies such as Kiesler Police Supply, which CAR has linked to recent diversion of materiel, were contracted by the US Department of Defense after 2003 to supply Iraq with weapons and ammunition during the US intervention.⁶²

Equipment and supplies from that period continue to circulate and some are now deployed by IS forces. A case in point is that of Czech vz. 58 assault rifles:

During the battle of Ramadi, the Iraqi Federal Police's Special Tactical Regiment recovered several vz. 58 rifles from IS forces. On 20 February 2016, a CAR field investigation team documented 25 vz. 58 rifles near Ramadi.⁶³

The Czech Republic confirmed that the documented rifles were manufactured by the company Agrozet Uherský Brod (currently Česká zbrojovka a.s, Uherský Brod) sometime between 1960 and 1980 in the former Czechoslovakia, from where they were supplied to the Czechoslovak People's Armed Forces.

After the Velvet Revolution and fall of the communist regime in late 1989, the same assault rifles were sold as surplus military materiel to the private company Banzai.⁶⁴ The rifles were then exported to Iraq in July and August 2007 via the company S.M.S., based in Dubnica nad Váhom, Slovakia. The EUC was issued by the Ministry of Defence of the Republic of Iraq. The deal was part of a larger supply of assault rifles, which was carried out by the US company Blane International Group, Inc., under the US Government contract no. W914NS-05-D-9013-0008.⁶⁵

Figure 39

A Czech vz. 58 P 7.62 x 39 mm assault rifle, exported to Iraq in 2007

Documented by a CAR field investigation team in Habbaniyah, Iraq, February 2016





Hawija, Iraq, November 2017

This transfer, in addition to others featured in this report, illustrates how the United States has relied on Eastern European stockpiles to arm partner forces. Many of the weapons used by both Iraqi security forces and IS forces may have been procured by US-based companies and brokers working under government contracts. Some of these brokers, including Blane International Group, continue to procure and supply weapons on behalf of the US government. On 15 December 2015, Blane International Group was awarded a five-year basic ordering agreement to fulfil requirements for the US Special Operations Command.⁶⁶

Media sources have reported that basic ordering agreements were also awarded to other US companies to procure weapons for armed groups in Syria. Purple Shovel has been linked to weapons procurement for Syrian armed opposition factions,⁶⁷ Culmen International fulfilled a US Department of the Army contract in September 2016 for the procurement of PKMS machine guns for the Syrian Train and Equip Fund for USD 3.9 million,⁶⁸ and UDC USA fulfilled a US Department of the Army contract for the procurement of weapons for the same Fund for USD 939,248.⁶⁹

In summary, evidence collected by CAR indicates that the United States has repeatedly diverted EU-manufactured weapons and ammunition to opposition forces in the Syrian conflict. IS forces rapidly gained custody of significant quantities of this materiel. CAR immediately alerted EU manufacturing states to these instances of diversion. The states concerned have confirmed that, in cases where end-user agreements with the United States contained a non-retransfer clause, they consider that the United States diverted the transfers.

In other cases, the legality of supply is less clear. For example, at least one EU Member State

EVIDENCE COLLECTED BY CAR INDICATES THAT THE UNITED STATES HAS REPEATEDLY DIVERTED EU-MANUFACTURED WEAPONS AND AMMUNITION TO OPPOSITION FORCES IN THE SYRIAN CONFLICT.

provided substantial quantities of materiel to the United States under IICs. These certificates did not include a non-retransfer clause and the United States is consequently free to re-export the materiel without restriction. CAR concludes that the use of IICs is not an effective way to deter the post-export diversion of weapons.

Finally, some of the ammunition (PG-7-pattern rockets) traced by CAR to transfers made to the United States has been systematically removed from its factory boxes and repackaged post-export. It is currently unclear why this occurred. Although repackaging is a common means of concealing (at first glance) the provenance of materiel, there are other plausible reasons why parties may have repackaged ammunition, including: a requirement to 'homogenise' packaging for the purposes of storing otherwise diversely packed ammunition types; replacing damaged packaging; or repackaging loose ammunition prior to export. However, the ammunition in question had not been re-boxed, but sealed in polythene bags. The bags, while protecting the ammunition from some environmental degradation (mainly resulting from moisture), would not provide protection from impact during handling. Neither the US government, nor the US commercial entities involved in these transfers have replied to formal trace requests issued by CAR.

Saudi Arabia

Like the United States, Saudi Arabia has provided support to various factions in the Syrian conflict, including through the supply of weapons. Working with the Bulgarian authorities, CAR has traced numerous items deployed by IS forces to initial exports from Bulgaria to Saudi Arabia. These transfers were uniformly subject to non-retransfer clauses concluded between Saudi Arabia and the Government of Bulgaria prior to export.

In this respect, onward retransfers by Saudi Arabia of these weapons contravene its commitments to the Government of Bulgaria not to re-export the materiel in question without Bulgaria's prior consent. CAR immediately informed the Government of Bulgaria of these cases and has discussed them during face-to-face meetings with Bulgarian arms export licensing authorities.

During the battle of Ramadi, Iraqi Federal Police recovered a RHEAT-9MA 73 mm rocket of Bulgarian origin and bearing lot number ((10))-04-11 from IS forces. A CAR field investigation team documented the rocket on 18 February 2016. Bulgaria confirmed it exported the rocket to the Ministry of Defence of Saudi Arabia in December 2014. The application for the licence was accompanied by the original EUC, issued by the Ministry of Defence of Saudi Arabia. The EUC, dated 30.09.1435 AH (corresponding to 27 July 2014 CE), states that the items are for use by the Royal Saudi Land Forces and are not

to be re-exported, lent, or rented without the written permission of the competent authorities of the exporter state—a non-re-export clause.⁷⁰ In meetings held in Sofia on 4 November 2016 to follow up on CAR's trace requests, Bulgarian national export authorities confirmed to CAR that Bulgaria had authorised exports to Saudi Arabia and the United States after the two countries had submitted end-user agreements that included non-retransfer clauses. CAR has yet to receive a reply to a trace request sent to Saudi Arabia.

Figure 40

A Bulgarian RHEAT-9MA 73 mm rocket with lot number ((10))-04-11, exported to Saudi Arabia in December 2014

Documented by a CAR field investigation team in Al Khalidiyah, Iraq, February 2016



CAR documented rockets with the same lot number on 30 June 2016, after recovery by Iraqi Special Operations Forces during the battle of Fallujah (22 May–28 June 2016); on 2 July 2016, following recovery on 29 June 2016 by Iraqi Ground Forces Command units from an IS convoy

intercepted near Fallujah; and on 27 September 2017, after recovery from IS positions in the Al-Jamhuri Hospital compound in western Mosul, which was recaptured on 3 July 2017. Some of these rockets were still in their polythene packaging.

Figure 41

A Bulgarian RHEAT-9MA 73 mm rocket with lot number ((10))-04-11, exported to Saudi Arabia in December 2014

Documented by a CAR field investigation team in Baghdad, Iraq, June 2016



Figure 42

A Bulgarian RHEAT-9MA 73 mm rocket with lot number ((10))-04-11, exported to Saudi Arabia in December 2014

Documented by a CAR field investigation team at Al Taqaddum base, Iraq, July 2016



Figure 43

A Bulgarian RHEAT-9MA 73 mm rocket with lot number ((10))-04-11 exported to Saudi Arabia in December 2014

Documented by a CAR field investigation team in western Mosul, Iraq, September 2017



CAR also documented dismantled RHEAT-9MA 73 mm rockets bearing lot ((10))-04-11 in an IS research and development workshop in Tal Afar in September 2017.

Figure 44

A Bulgarian RHEAT-9MA 73 mm warhead with lot number ((10))-04-11 exported to Saudi Arabia in December 2014

Documented by a CAR field investigation team in Tal Afar, Iraq, September 2017



CAR documented a corresponding CP-91 primary propelling charge, with identical lot number, recovered by Iraqi forces near Fallujah on 29 June

2016. Bulgaria confirmed it exported the charge on 19 December 2014 to the Ministry of Defence of Saudi Arabia.⁷¹

Figure 45

A Bulgarian CP-91 73 mm primary propelling charge with lot number ((10))-04-11 exported to Saudi Arabia in December 2014

Documented by a CAR field investigation team at Al Taqaddum base, Iraq, July 2016



Summary

Saudi Arabia's provision of weapons to Syrian opposition forces contravenes non-retransfer commitments made with the Government of Bulgaria. The case is similar to that of unauthorised retransfers by the United States to

the region. In each case, EU producer states are obliged, under Criterion Seven of the EU Common Position, to factor these breaches of commitment into future export licensing decisions.

BOX 5: M79 AND M93 90 MM ROCKETS

Between 2014 and 2017, CAR field investigation teams documented M79 90 mm rockets that were captured from IS forces in Iraq and Syria, and that were recovered during combat in Libya and Yemen.⁷²

- In 2014, CAR field investigation teams in Syria documented four M79 rockets bearing three different lot numbers.
- In July 2016, a CAR field investigation team documented 60 M79 90 mm rockets that had been recovered from an IS convoy intercepted near Fallujah on 29 June 2016,

and that bore an additional 20 different lot numbers.

- On 10 April 2017, Iraqi military intelligence forces recovered two M79 90 mm rockets in Ramadi. One featured a lot that had already been documented by CAR in Syria in 2014 and in Fallujah in 2016. The other bore a lot number already documented in Fallujah, with a serial number within 118 digits.
- CAR documented one M79 90 mm rocket launcher recovered from IS forces in Syria in July 2014.

Figure 46

A Yugoslav M79 90 mm rocket recovered from IS forces near Fallujah on 29 June 2016

Documented by a CAR field investigation team at Al Taqaddum base, Iraq, 2 July 2016



Bosnia and Herzegovina stated that between 1980 and 1992, PRETIS d.d. Vogošća manufactured more than 200,000 M79 90 mm rockets and that the manufacturer delivered all of them to the former Yugoslav army and Ministry of Defence.⁷³ Following the Yugoslav Wars in the 1990s, rockets with identical lot numbers remained in the stockpiles of several newly independent countries that

had previously comprised Yugoslavia. This creates problems in identifying the chain of custody of these items, as rockets could have ended up in any former Yugoslav state and need to be traced from each of these countries to determine their origin. Between 2014 and 2017, CAR has sought to document the chain of custody of these rockets by sending trace requests to Bosnia and

Herzegovina, Croatia, Montenegro, Serbia, Slovenia, and the former Yugoslav Republic of Macedonia.

Only Slovenia formally identified some of the lots CAR documented. The country indicated that it had exported M79 rockets bearing eight of the lot numbers CAR documented to a Slovak company for destruction, in 2005.⁷⁴ The Government of Slovakia confirmed that the Slovak company disposed of all

M79 rockets that it had received from the Government of Slovenia and that the Slovak Ministry of Economy had not issued any export licences for this type of materiel.⁷⁵ This would appear to suggest that rockets with the same lot numbers were in the custody of multiple parties and that the lots destroyed by Slovakia were not complete. CAR is still awaiting replies from several potential exporters in order to fully document the chains of custody of the items documented.

Figure 47

A Croatian M93 90 mm rocket recovered from IS forces near Fallujah on 29 June 2016

Documented by a CAR field investigation team at Al Taqaddum base, Iraq, 2 July 2016



Together with 60 M79 rockets that were recovered from an intercepted IS convoy near Fallujah in June 2016, CAR also documented 30 RBR M93 90 mm rockets—a variant of the M79 rockets manufactured in Croatia. The serial numbers of these rockets are not far apart, indicating that the items were probably transferred together through a limited number of intermediaries. This proximity is most obvious with the M93 90 mm rockets, which were all manufactured between 1995 and 1998—after the breakup of the former Yugoslavia—and feature four distinct series and serial number proximity averages ranging from 20 to 150 (see Table 1 on p.59).

Based on the replies CAR received and on evidence gathered in the field and presented above, CAR has determined the following:

- In Iraq and Syria, CAR documented M79 90 mm rockets that the former Yugoslavia had manufactured and distributed domestically.
- It is likely that different lots of M79 rockets were divided between different armed forces following the breakup of Yugoslavia. There might therefore be several chains of custody for one single lot.
- Slovenia has confirmed it had in its stocks some of the lots CAR documented. Slovenia transferred these lots to Slovakia in 2005 for destruction. CAR has not received responses from other potential exporters.
- Croatia confirmed to CAR that it did not transfer the M79 90 mm rockets with lot number 8502,⁷⁶ which CAR documented in Iraq and Syria. Croatia has yet to respond to CAR trace requests enquiring about other lots.

- The M93 90 mm rockets that CAR documented in Iraq were manufactured between 1995 and 1998, after the independence of Croatia, indicating the items were transferred by Croatia at some point. CAR has yet to receive a reply from Croatia on these items.
- Some lots of M79 rockets documented in Syria are identical to lots documented in Iraq, suggesting materiel used by armed opposition factions in Syria were diverted to IS forces and used in Iraq.
- The lot and serial numbers for both the M79 and the M93 90 mm rockets are close in sequence, indicating a short chain of custody with a limited number of intermediaries.
- Serial number proximity in the documented M79 rockets suggests a diversion line from Syria towards Ramadi and Fallujah.

Table 1
Documented M93 90 mm rockets, with serial number proximity

Series 1		Series 2		Series 3		Series 4	
Serial number	Difference	Serial number	Difference	Serial number	Difference	Serial number	Difference
04950094	8	06980042	201	11970259	558	11980872	5
04950102		06980243		11970817		11980877	
04950133	31	06980254	11	11970829	12	11981015	138
04950144	11	06980263	9	11971060	231	11981035	20
04950168	24	06980276	13	11971115	55	11981046	11
04950173	5			11971161	46	11981173	127
04950222	49						
04950243	21						
04950264	21						
04950304	40						
04950316	12						
04950319	3						

Libya

Libya is widely recognised as a source of illicit weapons across North Africa and the Maghreb region.⁷⁷ Documentation and analysis by CAR indicates that Libyan weapon supply chains have extended as far as Syria, as evidenced by a substantial maritime seizure of weapons consigned to Syrian opposition forces from Libya; consignment information that establishes that materiel recovered from IS forces in Iraq was originally consigned to Libya; and a congruence of weapon and ammunition types documented in Libya and Syria.

In 2015, a CAR field investigation team documented a large consignment of weapons and ammunition recovered by the Lebanese Armed Forces on board the Letfallah II vessel, which Lebanon intercepted en route to Syria in 2012.⁷⁸ Reportedly destined for the Free Syrian Army, the consignment followed several successful maritime deliveries from Libya to Syria.⁷⁹

Firm evidence of such deliveries can be found in small quantities of materiel recovered from IS forces and documented by CAR.

Case 1

In July 2016, a CAR field investigation team documented boxes of 12.7 x 99 mm (.50 calibre) ammunition recovered from an IS convoy, which Iraqi forces intercepted in June 2016 near Fallujah. Marks on the boxes indicate that the Belgian company FN Herstal manufactured the

ammunition in 1982 as part of a 1980 contract with Libya. CAR has identified two export licences granted by Belgian authorities for 12.7 x 99 mm ammunition transfers to Libya, totalling 1.5 million cartridges (see Appendix 2).

Figure 48

A box containing 100 Belgian 12.7 x 99 mm ammunition cartridges manufactured in 1982 and consigned to Libya

Documented by a CAR field investigation team at Al Taqaddum base, Iraq, July 2016



Figure 49

The headstamp of a Belgian 12.7 x 99 mm ammunition cartridge found in a box manufactured in 1982 and consigned to Libya

Documented by a CAR field investigation team at Al Taqaddum base, Iraq, July 2016

**Case 2**

CAR has also documented M79 90 mm rockets in service with IS forces, with lot numbers that are close in sequence to those of rockets identified by CAR field investigation teams in Libya (two digits apart).⁸⁰

Case 3

Somewhat circuitous transfers of weapons traced by CAR with the cooperation of the Government of Belgium provide further indications of Libyan shipments to Syria. During the siege of Kobane, YPG forces recovered two FN FAL 50.00 automatic rifles from IS forces. A CAR field investigation team documented the weapons in Kobane on 23 February 2015. Belgium confirmed that one of the rifles, bearing the serial number 1527473, was part of order No. 23-2-9108, dated 24 October 1979, which the manufacturer had shipped to Pakistan.⁸¹

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In response to a formal trace request issued by CAR, the Government of Pakistan confirmed receipt of the weapon but was unable to provide information on its subsequent retransfer. Although records of Belgian arms exports for the years 1969–74 and 1980–2003 are kept at the Belgian National Archives and remain accessible to the public, the Belgian administration reported that its records of arms exports for the years 1975–79 had been destroyed accidentally.⁸²

The other FN FAL rifle bore the serial number 1557540 on the right-hand side of the upper receiver, which indicates manufacture in or shortly after 1980. FN Herstal informed CAR that it could not provide further information regarding the transfer of this item.⁸³

Figure 50

A Belgian FN FAL 50.00 automatic rifle with the serial number 1527473, exported to Pakistan in 1979

Documented by a CAR field investigation team in Kobane, Syria, February 2015



Figure 51

A Belgian FN FAL 50.00 automatic rifle with serial number 1557540

Documented by a CAR field investigation team in Kobane, Syria, February 2015



The FAL rifle traced to Pakistan was loaded with a combination of Pakistani 7.62 x 51 mm ammunition from 1981 and the same calibre Belgian ammunition from 1980. The Belgian ammunition has been found in very large quantities in Libya. In 2012, the UN Panel of Experts on Libya also observed identical Pakistani 7.62 x

51 mm ammunition in northern Libya. According to the Panel's final report, Qatar supplied the ammunition to Libyan non-state armed groups in contravention of the arms embargo. The Panel later discovered the same type of ammunition in a shipment from Libya en route to Syria.⁸⁴

Figure 52

Pakistani Ordnance Factories 7.62 x 51 mm ammunition produced in 1981, found loaded in the FN FAL rifle

Documented by a CAR field investigation team in Kobane, Syria, February 2015



Figure 53

FOR COMPARISON

Pakistan Ordnance Factories 7.62 x 51 mm ammunition, exported to Qatar in the 1980s and documented by the UN Panel of Experts in Libya in 2012 © UN Panel of Experts on Libya



Summary

The Government of Belgium and the arms manufacturer FN Herstal have been instrumental in enabling CAR to identify these linkages—particularly by tracing weapons that were manufactured and exported from Belgium decades ago. It is important to stress that these are legacy weapons, which were transferred in the 1970s and 1980s. The transfers, however, serve as important markers for larger shipments and underscore the fact that government cooperation in tracing supplies of old, legacy weapons is not simply a historical exercise, but can provide critical information on contemporary illicit transfers. Neither the Government of Belgium nor FN Herstal was party to any unlawful activity in this context.

In summary, there are clear linkages between weapons observed by CAR field investigation teams in Libya and weapons deployed by IS forces in Iraq and Syria. These findings, combined with

interceptions of weapons en route to Syria from Libya, are sufficient to conclude that a Libya–Syria weapon pipeline has operated since at least 2012. While the precise transfer mechanics are unclear, IS forces have evidently tapped into supplies of weapons consigned to Syrian opposition forces—a finding that evidence presented elsewhere in this report supports.

THERE ARE CLEAR LINKAGES BETWEEN WEAPONS OBSERVED BY CAR FIELD INVESTIGATION TEAMS IN LIBYA AND WEAPONS DEPLOYED BY ISLAMIC STATE FORCES IN IRAQ AND SYRIA.

Sudan

CAR field investigation teams have closely monitored the proliferation of Sudanese-supplied and -manufactured weapons and ammunition in a range of conflicts since 2011.⁸⁵ Although the quantity of Sudanese-produced materiel recovered

from IS forces in Iraq and Syria is relatively low, it is nevertheless indicative of Sudan's growing role in supplying military materiel to parties engaged in armed conflicts across Africa and the Middle East.

Case 1

During the siege of Kobane, YPG forces captured Chinese CQ 5.56 mm rifles from IS forces. The CQ 5.56 mm rifle is a Chinese copy of the M16 rifle. This is the first evidence of this type of rifle in IS stockpiles. CAR documented two CQ rifles in February 2015, each of which featured markings and serial numbers that had been deliberately removed by milling, and the milled area had subsequently been painted black.

In 2013, CAR and the Small Arms Survey documented hundreds of CQ rifles held by non-

state armed groups in South Sudan; their serial numbers had been deliberately removed in an identical fashion (including the application of black paint). CAR and the Small Arms Survey confirmed that the Sudanese National Intelligence and Security Service had supplied the rifles to various South Sudanese non-state armed groups. Members of these groups reported that they had received the weapons with the markings removed, but it is not clear whether China, Sudan, or an intermediary was responsible for supplying the weapons to parties to the Syria conflict.⁸⁶

Figure 54

A Chinese CQ 5.56 x 45 mm assault rifle recovered from IS forces during the siege of Kobane

Documented by a CAR field investigation team in Kobane, Syria, February 2015



Figure 55

Obliterated markings on a Chinese CQ 5.56 x 45 mm assault rifle recovered from IS forces during the siege of Kobane

Documented by a CAR field investigation team in Kobane, Syria, February 2015



Figure 56

FOR COMPARISON

Chinese CQ 5.56 x 45 mm assault rifle with obliterated markings, in possession of the South Sudan Democratic Movement/Army under the leadership of James Kubrin

Documented by a CAR-SAS field investigation team, Jonglei, South Sudan, February 2013



Figure 57

FOR COMPARISON

Obliterated markings on a Chinese CQ 5.56 x 45 mm assault rifle, in possession of the South Sudan Democratic Movement/Army under the leadership of James Kubrin

Documented by a CAR-SAS field investigation team, Jonglei, South Sudan, February 2013



The CQ rifles in Kobane were loaded with Chinese Factory 71 (Harbin Longjiang Special Equipment Company) 5.56 x 45 mm ammunition, which was manufactured in 2008. The CQs previously documented in South Sudan were likewise loaded with identical ammunition from the same year.

Case 2

In May 2015 in Al Hasakah, CAR documented a Sudanese Sinar 40 mm rocket that Iraqi forces had previously recovered from IS forces. The rocket was dated 2014. CAR subsequently documented another Sinar 40 mm rocket dated 2015 in an IS research and development workshop in Tal Afar.

Figure 58

A 5.56 x 45 mm ammunition cartridge produced by Harbin Longjiang Special Equipment Company in 2008

Documented by a CAR field investigation team in Kobane, Syria, February 2015



The CQ rifles observed in Syria and South Sudan were of the same type, loaded with identical ammunition, and subjected to the same method of milling and painting, all of which strongly suggests that they derived from the same source.

Case 3

CAR documented Sudanese small-calibre ammunition on several occasions and at different sites. Sudanese ammunition of recent manufacture (post-2010) accounts for 41 per cent of all Sudanese ammunition CAR documented in Iraq and Syria.

Figure 59

A Sudanese Sinar 40 mm rocket produced in 2014

Documented by a CAR field investigation team in Al Hasakah, Syria, May 2015



Figure 60**A Sudanese Sinar 40 mm rocket produced in 2015**

Documented by a CAR field investigation team in Tal Afar, Iraq, September 2017

**Figure 61****A Sudanese 7.62 x 39 mm ammunition cartridge produced in 2015**

Documented by a CAR field investigation team in Qaraqosh, Iraq, November 2016

**Summary**

Although IS forces deploy few Sudanese-produced weapons, the presence of Sudanese materiel in the region is significant. Sudan is a confirmed source of diverted material to non-state forces across Africa and the country's production capacity has

increased markedly in recent years.⁸⁷ Notable among these findings is the presence of identical materiel, which appears to have originated from the same illicit supply source as materiel supplied to non-state armed groups in South Sudan.

Other suppliers of diverted materiel

Other governments also appear to have diverted materiel produced in the EU. The number of items CAR documented and traced to these countries is

smaller than for cases presented above. However, together they constitute a fuller picture of the diversions feeding IS forces' inventories.

Afghanistan

In March 2015, CAR documented an OG-7 40 mm projectile, which YPG forces had recovered from IS forces near Al Hasakah during the same month. Romania confirmed it had exported the item on

26 April 2006 to the Transitional Islamic State of Afghanistan for use by the Afghanistan National Police.⁸⁸

Figure 62

A Romanian OG-7 40 mm projectile exported to Afghanistan on 26 April 2006

Documented by a CAR field investigation team in Khiznah, Syria, March 2015



Azerbaijan

In May 2015, Syrian YPG forces recovered a PG-7PM primary propelling charge from IS forces near Al Hasakah. A CAR field investigation team documented the item, with lot number 1-14-((11)), on 20 May 2015. Bulgaria confirmed that it had

exported the item on 18 December 2014 to the Ministry of Defence of Azerbaijan. The application for the licence was accompanied by the original EUC.⁸⁹ CAR has yet to receive a response to a trace request sent to Azerbaijan.

Figure 63

A Bulgarian PG-7PM 40 mm primary propelling charge exported to Azerbaijan on 18 December 2014

Documented by a CAR field investigation team in Al Hasakah, Syria, May 2015



Turkey

IS forces have deployed small quantities of Turkish military weapons and ammunition. These include medium machine guns, rotary grenade launchers,

disposable rocket launchers, hand grenades, 81 mm and 120 mm HE mortar projectiles, and small-calibre ammunition.

Figure 64

A Turkish HAR-66 disposable rocket launcher

Documented by a CAR field investigation team in western Mosul, Iraq, September 2017



CAR has also documented materiel for which Turkish authorities were the intended end users. On 22 May 2017, in a house in western Mosul, CAR documented ammunition of Bosnian manufacture that had originally been exported to Turkey. Iraqi forces had seized the house from IS forces the previous day, during the battle for western Mosul. Among the materiel discarded by IS forces

within the house were two crates of 5.56 x 45 mm ammunition produced in Bosnia and Herzegovina in 1998. Bosnian authorities confirmed that the crates were part of a total batch of 5 million cartridges produced in 1997 and 1998 and exported to the Ministry of Internal Affairs of Turkey.⁹⁰ Turkey has yet to reply to a CAR trace request.

Figure 65

A crate of 2,000 5.56 x 45 mm ammunition cartridges produced in Bosnia and Herzegovina in 1998

Documented by a CAR field investigation team in western Mosul, Iraq, May 2017



How IS forces gained custody of this materiel is unclear, but at the time of recovery, no other forces in the region had been deploying these weapons or this ammunition, nor were they legally available on Turkey's civilian markets.

These findings suggest that, at the very least, Turkey's armed forces face challenges with respect to the diversion of military weapons.

POTENTIAL SUPPLIERS OF DIVERTED AMMUNITION

Ammunition producers often manufacture hundreds of thousands of identical items in relatively short periods of time. When they are produced using the same materials (metals, explosives, or batches of propellant), these 'lots' are assigned the same lot number. Given that not all customers have a requirement for large volumes of ammunition, exporters often split lots of ammunition and supply them independently to different customers. This means that two or more countries may simultaneously hold identically marked, and indistinguishable, ammunition from the same lots. This poses challenges to attempts to trace the origins of ammunition, because a unit of ammunition with a specific lot number may have originated from two or more sources.

As the following investigations illustrate, IS forces in Iraq and Syria deployed various types of ammunition that had originally been exported in split lots. Identifying the point of diversion in these cases involves the close cooperation of all initial export recipients—essentially a process of elimination, whereby lot recipients exclude themselves as sources of the ammunition in question. This cooperation has, to date, been mixed; some governments have provided CAR with valuable assistance in its investigations, while others have not yet responded to formal trace requests. The information presented below provides a public record of CAR's investigations.

Case 1

In May 2015, YPG forces recovered CP-71 primary propelling charges from IS forces near Al Hasakah, where CAR documented them later the same month. The charges bore lot numbers ((10))-02-12 and ((10))-02-14. Bulgaria stated that the items were produced for assembly with RF-7MA 40 mm

projectiles with lot numbers ((10))-04-13 and ((10))-04-14, respectively. CAR also documented identical charges with lot number ((10))-02-14 recovered from an IS convoy intercepted near Fallujah on 29 June 2016, and from a deceased IS fighter in the Mosul University compound on 3 February 2017.

Figure 66

A Bulgarian CP-71 40 mm primary propelling charge with lot number ((10))-02-12

Documented by a CAR field investigation team in Al Hasakah, Syria, May 2015



Figure 67**A Bulgarian CP-71 40 mm primary propelling charge with lot number ((10))-02-14**

Documented by a CAR field investigation team in Al Hasakah, Syria, May 2015



Bulgaria confirmed it exported RF-7MA 40 mm projectiles with the lot number ((10))-04-13 to:

- the Slovak company Kelson with declared re-export to the Ministry of Defence of Saudi Arabia on 30 September 2013 (150 projectiles) and 18 February 2014 (4,866 projectiles);
- the Ministry of Defence of Afghanistan in March 2014; and
- the Royal Gendarmerie of Morocco in March 2014.⁹¹

Bulgaria confirmed it exported RF-7MA 40 mm projectiles with the lot number ((10))-04-14 to:

- the Slovak company Kelson with declared re-export to the Ministry of Defence of Saudi Arabia on 17 August 2014 (10,000 projectiles);

- the Ministry of Defence of Saudi Arabia on 5 November 2014;
- the South African National Defence Force on 25 August 2014; and
- the Ministry of Defence of France on 25 February 2015.⁹²

Subsequently, CAR sent trace requests to Afghanistan, France, Morocco, Saudi Arabia, Slovakia, and South Africa. Slovakia responded, confirming it imported the RF-7MA projectiles with CP-71 charges, but provided no further information regarding any subsequent exports of this materiel.⁹³ South Africa confirmed that its National Defence Force purchased and received RF-7MA projectiles from Arsenal JSCo, Bulgaria.⁹⁴ This information alone is not sufficient to trace the supply of these items to the region.



BOX 6: AMBIGUOUS DELIVERY DESTINATIONS

As part of its investigation into the Bulgarian CP-71 40 mm propelling charges, CAR found ambiguous delivery destinations. CAR examined flight data to understand and trace the declared export from Bulgaria to Slovakia on 17 August 2014 and the reported onward transfer to Saudi Arabia.

The only cargo flight from Burgas, Bulgaria, to Bratislava, Slovakia, close to the declared date of shipment was on 19 August 2014.⁹⁵ It was carried out by a Georgian-registered Boeing 747-200 cargo aircraft (4L-MRK) and operated by a Georgian company, The Cargo Airline (see Table 2).⁹⁶

Table 2
Flight plan for 4L-MRK on 19 August 2014

Planned departure time	Actual departure time	Actual arrival time	Departure airport	Arrival Airport	Flight Number	Aircraft type	Aircraft registration	Flight plan remarks	Flight type
08:15:00	08:27:00	09:56:58	Burgas (LBBG)	Bratislava (LZIB)	TZS570	B747-200	4L-MRK	—	Non-state
13:15:00	13:27:00	16:57:48	Bratislava (LZIB)	Amman (OJAM)	TZS571	B747-200	4L-MRK	TURKEY OVF PERMIT HUD T 380	Non-state

Flight plan data obtained by CAR indicates that the aircraft filed a flight plan directly from Bratislava to Amman, Jordan, although there was an EUC for the Ministry of Defence of Saudi Arabia regarding the Bulgarian and Slovak weapons cargo. International reports and media have identified Jordan as a centre for weapon distribution to Syrian armed groups, at least partly due to its land border with Syria, which Saudi Arabia lacks.⁹⁷

Personnel involved with this flight confirmed to CAR that it carried military-grade ammunition but insisted that the aircraft did in fact fly to Tabuk, Saudi Arabia, in accordance with the EUC.⁹⁸ They reported that the aircraft filed a flight plan in Bratislava directly to Amman, which was the aircraft's next destination after Tabuk, to collect humanitarian cargo for transport to Erbil, Iraq. In addition, they claimed that because Tabuk was a military airport, it was difficult to file flight plans from there for onward flights to Amman.⁹⁹ European air traffic control personnel confirmed that this practice does

not comply with European flight planning standards.¹⁰⁰ The flight on 19 August 2014 was the last of seven such flights reportedly undertaken by this aircraft between Bratislava and Amman between 27 July and 19 August 2014.¹⁰¹

The Cargo Airline was unable to provide CAR with direct evidence that the aircraft landed in Tabuk on 19 August 2014, stating that their copy of a diplomatic landing permit had been kept on a laptop that was damaged in 2016, and that the aircraft received no additional paperwork in Tabuk as it did not refuel there and military personnel undertook the cargo offloading at no cost.¹⁰² The Cargo Airline did, however, provide CAR with copies of aircraft logbook sheets for 19 August 2014 for flight legs between Bratislava and Tabuk, and Tabuk and Amman, which show accurate fuel consumption and other details for these flights.¹⁰³ The Cargo Airline has yet to respond to CAR's requests for copies of logbook sheets for the previous flights planned between Bratislava and Amman.

Case 2

Iraqi Ground Forces Command units recovered a PG-7T 40 mm rocket from an IS convoy intercepted on 29 June 2016 near Fallujah; CAR documented it three days later. Bulgaria stated that the item was part of a batch sold to three unspecified Bulgarian defence export companies, which then exported them as follows:

- to the Ministry of Defence of France in July 2014 and January 2016;

- to the Ministry of Defence of Mauritania on 28 September 2013; and
- to the US Department of the Army in Ramstein Air Base, Germany, on 20 November 2013.¹⁰⁴

CAR has yet to receive replies to trace requests issued to France, Mauritania, and the United States.

Figure 68

A Bulgarian PG-7T 40 mm rocket with lot number 1-13-((11)) recovered from an IS convoy near Fallujah on 29 June 2016

Documented by a CAR field investigation team at Al Taqaddum base, Iraq, 2 July 2016

**Case 3**

Iraqi forces recovered a PG-7M 40 mm rocket with lot number ((11))-1-14 in the same IS convey, which they had intercepted on 29 June 2016 near Fallujah. Later that year, during the battle of Mosul (which began on 16 October 2016), Iraqi Special Operations Forces recovered an identical rocket from IS. The recovery of identical items months

apart and in different parts of the country points to a larger diversion earlier in the supply chain. In response to a CAR trace request, Bulgaria confirmed that rockets with this lot number were sold to Bulgarian export companies and subsequently exported to a Serbian and a US company.¹⁰⁵

Figure 69

A Bulgarian PG-7M 40 mm rocket recovered from an IS convoy near Fallujah on 29 June 2016

Documented by a CAR field investigation team at Al Taqaddum base, Iraq, 2 July 2016



The US company is a military reproduction and weapon replicas specialist. Responding to a CAR trace request on 28 April 2017, it reported that the shipment only arrived in the United States on 29 June 2016,¹⁰⁶ the day Iraqi security forces recovered identical items from an IS convoy near Fallujah. Shipping data confirms that the vessel in question arrived in the US port of offload on 22 June 2016, which makes it extremely unlikely that these rockets could have been shipped to an end user in the Middle East, acquired by IS forces, and re-captured by 29 June 2016.

On 25 May 2017, Serbia replied to a CAR trace request confirming that the Serbian company imported 960 PG-7M rockets on 2 April 2014 and that they had been manufactured by VMZ, Bulgaria, and bore the lot number documented by CAR in Iraq. On 4 April 2014, the company legally re-exported the rockets by air to Burundi, identifying the Ministry of National Defence and Veterans as the end user. Burundi provided a delivery verification certificate dated 28 January 2015 and listing the 960 PG-7M rockets.¹⁰⁷ The company told the Serbian authorities that Burundi still had the

items. CAR requested access to this materiel to verify its location but has yet to receive a response from the Burundian authorities.

In order to determine the possibility of en route diversion of the cargo, CAR sought documentation from the air company listed on Serbian export documentation as having flown the rockets to Burundi. This company has not retained cargo documents or aircraft logbooks relating to the flight. However, undated photographs, provided by the crew of the aircraft listed on the airway bill as having undertaken the cargo flight, confirm that the aircraft in question did at some point transport ammunition to Bujumbura, where Burundian military personnel offloaded it. While this information does not corroborate the quantities of munitions delivered to Bujumbura, it does provide circumstantial evidence that the rockets were transferred to Burundi and argues against en route diversion.

CAR is still investigating this particular case to determine the precise chain of custody of the PG-7M 40 mm rockets recovered from IS forces.

BOX 7: DIVERSION OF RHEAT-9MA 73 MM ROCKETS

In the Iraqi cities of Fallujah, Mosul, and Ramadi, CAR documented similar Bulgarian RHEAT-9MA 73 mm rockets with other lot numbers, namely ((10))-01-10, ((10))-02-10, ((10))-03-10,¹⁰⁸ ((10))-01-11, ((10))-02-11, ((10))-03-11, ((10))-05-11, and ((10))-06-11. CAR has not been able to determine the chain of custody and likely points of diversion of

such rockets, as Bulgaria has yet to reply to CAR trace requests about these items. Nonetheless, the markings on several rockets were obliterated by abrasion before being repackaged in polyethylene bags, as evidence of a clear attempt to mask their origin and points of diversion.

Figure 70

A Bulgarian RHEAT-9MA 73 mm rocket with lot number ((10))-01-10

Documented by a CAR field investigation team at Al Taqaddum base, Iraq, July 2016



Figure 71

A Bulgarian RHEAT-9MA 73 mm rocket with lot number ((10))-02-10

Documented by a CAR field investigation team at Al Taqaddum base, Iraq, July 2016



Figure 72

A Bulgarian RHEAT-9MA 73 mm rocket with lot number ((10))-03-10

Documented by a CAR field investigation team at Camp Speicher, Iraq, in April 2017



Figure 73

A Bulgarian RHEAT-9MA 73 mm rocket with lot number ((10))-01-11

Documented by a CAR field investigation team at Camp Speicher, Iraq, April 2017



Figure 74

A Bulgarian RHEAT-9MA 73 mm rocket with lot number ((10))-02-11

Documented by a CAR field investigation team in western Mosul, Iraq, September 2017



Figure 75

A Bulgarian RHEAT-9MA 73 mm rocket with lot number ((10))-03-11

Documented by a CAR field investigation team in Baghdad, Iraq, June 2016



Figure 76

A Bulgarian RHEAT-9MA 73 mm rocket with lot number ((10))-05-11

Documented by a CAR field investigation team at Al Taqaddum base, Iraq, June 2016



Figure 77

A Bulgarian RHEAT-9MA 73 mm rocket with lot number ((10))-06-11

Documented by a CAR field investigation team at Al Taqaddum base, Iraq, June 2016



Figure 78

Bulgarian RHEAT-9MA 73 mm rockets The lower rocket has had its markings obliterated

Documented by a CAR field investigation team at Al Taqaddum base, Iraq, June 2016



Summary

In summary, identifying the sources of ammunition that originated in split lots and that was deployed by IS forces requires the cooperation of a number of export recipient governments. There are clear reasons to believe that several of the parties listed in this section have diverted materiel, in violation

of end-user agreements, to parties in the Syrian conflict. These cases underscore the fact that identifying diversion often involves cross-national collaboration, particularly given multiple potential supply sources.

CORRELATIONS INDICATING THE SUPPLY ROUTES EMPLOYED BY IS FORCES

Geographic patterns in the distribution of identical weapon and ammunition types held by IS forces provides possible indications of the group's supply routes. This is particularly true of items with identical lot or serial numbers that are close in sequence. The logic is as follows: 1) items with the same lot number or corresponding serial numbers are likely to have been delivered in the same shipments (regardless of the recipient party), and 2) linking the recovery locations of identically marked items is likely to establish rough supply lines.

A compilation of the geographic distribution of materiel with the same lot number reveals the following transit corridors for materiel along main roads and rivers:

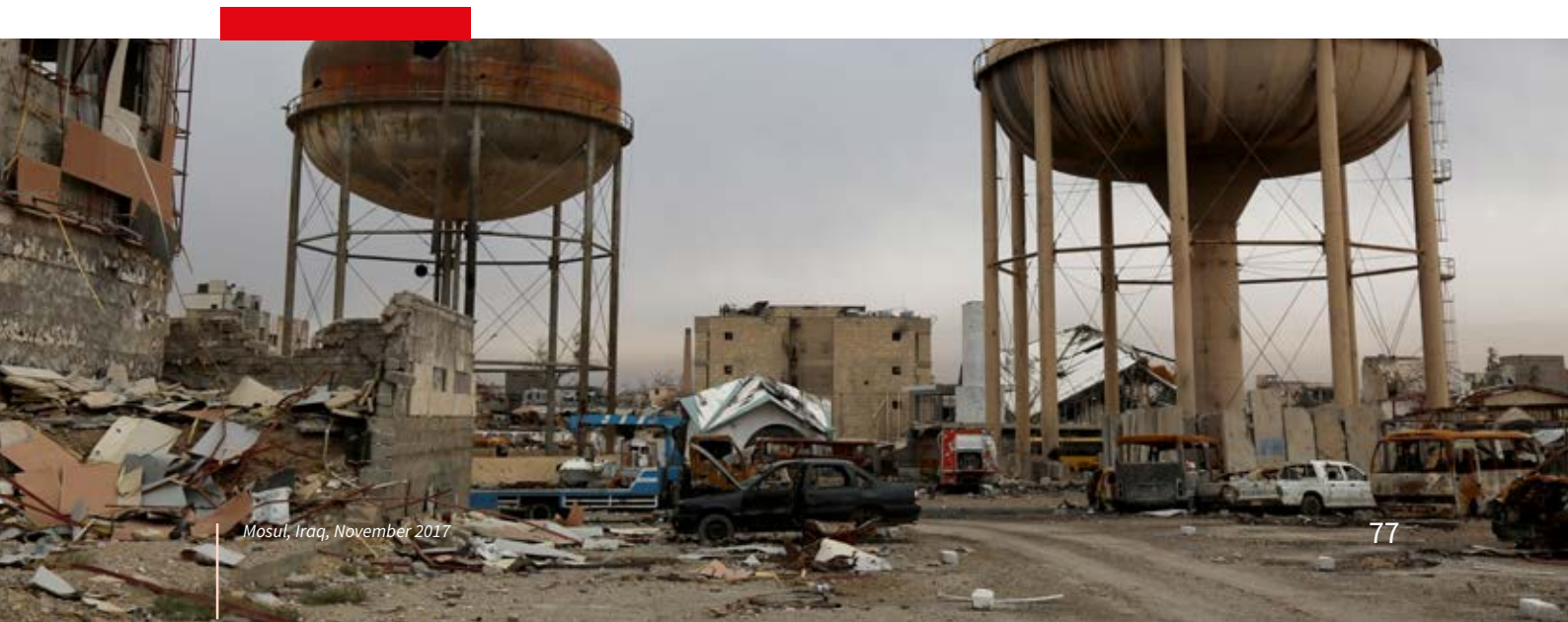
- a west–east corridor along a network of roads linking Kobane to Mosul through Al Hasakah in northern Syria and Tal Afar in northern Iraq; and
- two north–south corridors that follow the Tigris and the Euphrates rivers, linking Mosul and Al Hasakah with Ramadi and Fallujah.

Analysis of the correlated lot numbers CAR documented shows that Al Hasakah is a main transit hub, linking Ayn Issa and the Raqqa area to the Iraqi provinces of Al Anbar and Nineveh. With the recapture of Al Hasakah in May 2015, this hub may have shifted south, towards Deir ez-Zor, Al Bukamal, and Al Qa'im. CAR has documented correlated materiel recovered in Mosul, Ramadi, and Rutba; this evidence points to potential movement of weapons between the three cities via Al Qa'im and along the deserted border between Iraq and Syria.

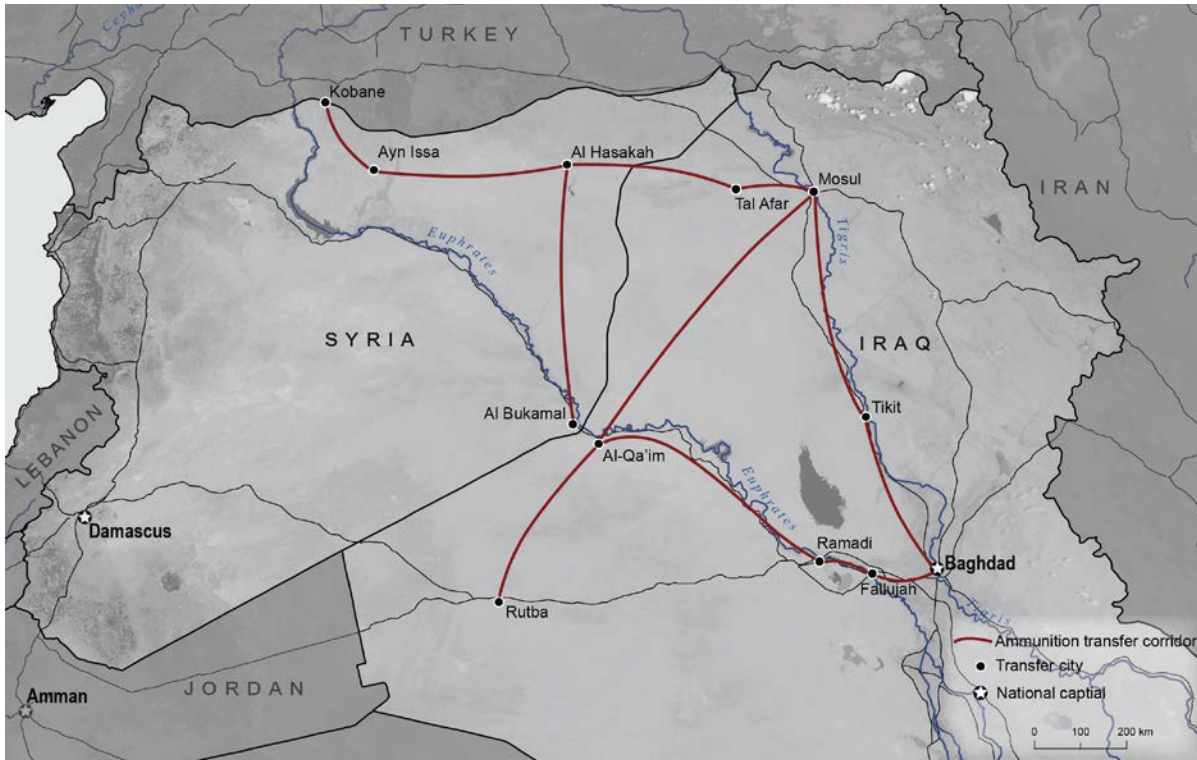
Ammunition supply routes

CAR field investigation teams documented 105 cases of two or more units of ammunition that bore identical lot numbers and were recovered from IS forces in Iraq and in Syria. This means that at least some of these cases involve ammunition that were probably diverted from the same end

user across the region. Ammunition units with the same lot numbers were distributed across a number of recovery sites (see Map 3), with particular concentrations of ammunition produced in Iran, China, Eastern Europe, and the former Soviet Union.



Map 3
Transfer corridors for ammunition with correlated lot numbers



Iranian ammunition

CAR documented post-2010 Iranian small-calibre ammunition with identical lot numbers on both sides of the Iraq–Syria border.

Figure 79
An Iranian 7.62 x 39 mm ammunition cartridge produced in 2012

Documented by a CAR field investigation team in Qaraqosh, Iraq, November 2016



Figure 80
An Iranian 7.62 x 39 mm ammunition cartridge produced in 2012

Documented by a CAR field investigation team in Al Hasakah, Syria, May 2015



CAR investigators also found Iranian projectiles, rockets, and primary propelling charges of recent manufacture linking Ayn Issa, Syria, and Tarmiyah (north of Baghdad) (lot number 9-12-2006), as

well as Tikrit and Ramadi (lot number 10-12-2005), Fallujah and Ramadi (lot number 01-01-2015), and Fallujah and Mosul (lot number 02-13-2014).

Figure 81

An Iranian 40 mm primary propelling charge with lot number 9-12-2006

Documented by a CAR field investigation team in Ayn Issa, Syria, July 2015



Figure 82

An Iranian 40 mm primary propelling charge with lot number 9-12-2006

Documented by a CAR field investigation team in Baghdad, Iraq, May 2017



Figure 83

An Iranian 40 mm primary propelling charge with lot number 10-12-2005

Documented by a CAR field investigation team in Tikrit, Iraq, in April 2015



Figure 84

An Iranian 40 mm primary propelling charge with lot number 10-12-2005

Documented by a CAR field investigation team in Baghdad, Iraq, in May 2017



Figure 85

An Iranian Zafar 73 mm rocket with lot number 01-01-2015

Documented by a CAR field investigation team in Baghdad, Iraq, in June 2016



Figure 86

An Iranian Zafar 73 mm rocket with lot number 01-01-2015

Documented by a CAR field investigation team in Baghdad, Iraq, in September 2016



Figure 87

A crate of Iranian Saegheh 40 mm projectiles with lot number 02-13-2014

Documented by a CAR field investigation team in Fallujah, Iraq, in June 2016



Figure 88

An Iranian Saegheh 40 mm projectile with lot number 02-13-2014

Documented by a CAR field investigation team at Camp Speicher, Iraq, April 2017



Chinese ammunition

CAR further confirmed similarities in materiel used by Syrian armed opposition groups and IS forces by comparing video imagery presented by Syrian armed opposition groups with ATGW tubes recovered from IS in Mosul in January 2017. In Bartella, CAR documented a Chinese HJ-8E ATGW tube recovered from IS forces by Iraqi forces in Mosul. The tube bore the lot number 01-02-22 (indicating manufacture in 2002) and the serial

number 063. On 20 August 2013, a Syrian armed opposition group videotaped its use of an identical tube that bore the same lot number and the serial number 399.¹⁰⁹ The presence of similar items with corresponding serial numbers suggests they were part of the same supply chain. The similarities could also be indicative of contact between the groups, or battlefield capture.

Figure 89

A Chinese HJ-8 ATGW missile tube with lot number 01-02-22

Documented by a CAR field investigation team in Bartella, Iraq, February 2017



Figure 90

A Chinese HJ-8 ATGW missile tube with lot number 01-02-22

Source: ShaamNetwork (2013)



Chinese Type 69 40 mm rockets produced in 2008 and 2013 seem to experience the most large-scale diversion across Iraq and Syria. CAR documented

lot number correlations for such items in northern Iraq and Syria, and south to Baghdad.

Figure 91

A Chinese Type 69 40 mm rocket with lot number 2-08-23

Documented by a CAR field investigation team in Tuz Khurma, Iraq, in October 2014



Figure 92

A Chinese Type 69 40 mm rocket with lot number 2-08-23

Documented by a CAR field investigation team in Tanooria, Syria, December 2014



Figure 93

A Chinese Type 69 40 mm rocket with lot number 3-08-23

Documented by a CAR field investigation team in Khiznah, Syria, March 2015



Figure 94

A Chinese Type 69 40 mm rocket with lot number 3-08-23

Documented by a CAR field investigation team in Baghdad, Iraq, May 2017



Likewise, CAR documented Chinese 82 mm mortar projectiles of recent production with identical lot numbers in Kobane and Tikrit.

Figure 95

Tube packaging for a Chinese W87 82 mm mortar projectile with lot number 1-2008-991

Documented by a CAR field investigation team in Kobane, Syria, February 2015



Figure 96

Tube packaging for a Chinese W87 82 mm mortar projectile with lot number 1-2008-991

Documented by a CAR field investigation team in Tikrit, Iraq, April 2015



Eastern European and Soviet ammunition

Observing lot number correlations for Eastern European and Soviet rockets recovered from IS forces in Iraq and Syria provides insight into the proliferation of specific lots and indicates substantial diversion earlier in the supply chain, before IS forces acquired the materiel to reinforce their arsenal.

CAR documented many lot number correlations for recently produced Bulgarian and Romanian 40 mm and 73 mm rockets and projectiles, and for their primary propelling charges, thus linking supply chains to Iraq (Baghdad belts, Fallujah, Mosul, Ramadi, Rutba, Tal Afar, and Tikrit) and Syria (Al Hasakah and Ayn Issa). Some of these weapons

were initially exported to Saudi Arabia and the United States (see ‘Confirmed suppliers of diverted materiel’, above).

As some countries do not retain manufacture and export records for older items, tracing their origins becomes increasingly difficult with time. However, while deployed to the field, CAR investigators can still observe lot number correlations for older materiel and identify vectors of diversion. CAR has further documented the east-west corridor linking Kobane, Al Hasakah and Mosul, with Soviet 40 mm rockets produced in 1977 and 1987, and matching lot numbers in these locations.

Figure 97

A Soviet PG-7S 40 mm rocket with lot number 56-18-77

Documented by a CAR field investigation team in Kobane, Syria, February 2015



Figure 98

A Soviet PG-7S 40 mm rocket with lot number 56-18-77

Documented by a CAR field investigation team at Camp Speicher, Iraq, April 2017



Figure 99

A Soviet PG-7L 40 mm rocket with lot number 254-23-87

Documented by a CAR field investigation team in Al Hasakah, Syria, May 2015



Figure 100

A Soviet PG-7L rocket motor with lot number 254-23-87

Documented by a CAR field investigation team in Al Arij, Iraq, February 2017



Documentation of Polish 40 mm primary propelling charges with matching lot numbers in Al Hasakah and Ramadi, and of Romanian 73 mm rockets with matching lot numbers in Fallujah and Mosul, reveals two north-south corridors.

Figure 101

A Polish PG-7PM 40 mm primary propelling charge with lot number 3-80-361

Documented by a CAR field investigation team in Al Hasakah, Syria, May 2015



Figure 102

A Polish PG-7PM 40 mm primary propelling charge with lot number 3-80-361, recovered from IS forces in Ramadi

Documented by a CAR field investigation team in Baghdad, Iraq, May 2017



Figure 103

A Romanian PG-9 73 mm rocket with lot number 8-84-80, recovered from IS forces in Fallujah

Documented by a CAR field investigation team in Baghdad, Iraq, June 2016



Figure 104

A Romanian PG-9 73 mm rocket with lot number 8-84-80

Documented by a CAR field investigation team in Mosul, Iraq, September 2017



BOX 8: A SHOOTING RANGE IN QARAQOSH

In November 2016, CAR documented 711 small-calibre cartridges in a church that IS forces had used as a shooting range in the town of Qaraqosh, Iraq. IS forces occupied Qaraqosh between August 2014 and October 2016. Of the 711 cartridges, 138 were of Romanian manufacture and produced between 2013 and 2015. CAR did not document any packaging, which would have enabled formal tracing with the Government of Romania.

Figure 105

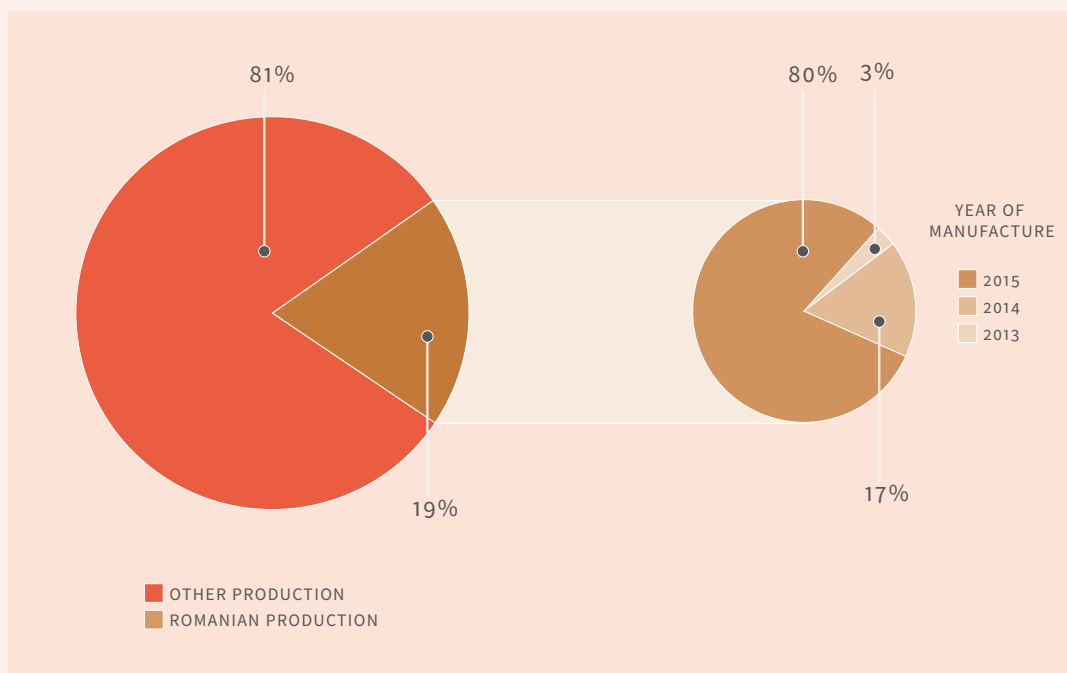
A Romanian 7.62 x 39 mm ammunition cartridge produced in 2015

Documented by a CAR field investigation team in Qaraqosh, Iraq, in November 2016



Chart 20

Proportion of Romanian ammunition documented by CAR in Qaraqosh, in November 2016, by year of manufacture



Correlations in headstamps

CAR compared the distribution of small-calibre ammunition headstamps used in five major battles in Syria (Kobane, Al Hasakah) and Iraq (Tikrit, Fallujah, Mosul), for a total of 730 headstamps

recovered from or fired by IS forces. The following six headstamps appear in at least four of these five major battles:¹¹⁰

Case 1: 539_89

Tula Cartridge Works in the Soviet Union produced 7.62 x 39 mm cartridges with this headstamp in 1989.

Figures 106 and 107

Tula Cartridge Works 7.62 x 39 mm ammunition cartridges produced in 1989

Documented by CAR field investigation teams in Kobane, Syria, February 2015 and in Tikrit, Iraq, April 2015



Figures 108 and 109

Tula Cartridge Works 7.62 x 39 mm ammunition cartridges produced in 1989

Documented by CAR field investigation teams in Al Qamishli, Syria, May 2015 and in Al Arij, Iraq, February 2017



Case 2: 7,62x39_WOLF and 7.62x39[dot]_WOLF

Both the Tula Cartridge Works and the Barnaul Cartridge Plant in Russia produced 7.62 x 39 mm cartridges with these headstamps. The headstamps do not contain years of production.

Figures 110 and 111

Tula Cartridge Works 7.62 x 39 mm ammunition cartridges

Documented by CAR field investigation teams in Kobane, Syria, February 2015, and in Tikrit, Iraq, April 2015



Figures 112 and 113

Tula Cartridge Works 7.62 x 39 mm ammunition cartridges

Documented by CAR field investigation teams in Al Hasakah, Syria, May 2015, and in Bartella, Iraq, November 2016



Figures 114 and 115

Barnaul Cartridge Plant 7.62 x 39 mm ammunition cartridges

Documented by CAR field investigation teams in Kobane, Syria, February 2015, and in Tikrit, Iraq, April 2015



Figures 116 and 117

Barnaul Cartridge Plant 7.62 x 39 mm ammunition cartridges

Documented by CAR field investigation teams in Al Hasakah, Syria, May 2015, and at Al Taqaddum base, Iraq, July 2016



Figure 118

A Barnaul Cartridge Plant 7.62 x 39 mm ammunition cartridge

Documented by a CAR field investigation team in Al Arij, Iraq, February 2017



Case 3: 7.62X39_7_2009_I

Based on comparative analysis, CAR concludes that the Individual Combat Industries Group, a subsidiary of the Iranian Defence Industries Organization, produced 7.62 x 39 mm cartridges with this headstamp in 2009.

Figures 119 and 120

Iranian 7.62 x 39 mm ammunition cartridges produced in 2009

Documented by CAR field investigation teams in Kobane, Syria, February 2015, and in Al Hasakah, Syria, May 2015



Figure 121 and 122

Iranian 7.62 x 39 mm ammunition cartridges produced in 2009

Documented by CAR field investigation teams at Al Taqaddum base, Iraq, July 2016, and at Camp Speicher, Iraq, April 2017



Case 4: 61_06

This headstamp appears on 7.62 x 54R mm cartridges produced in China in 2006.

Figures 123 and 124

Chinese Factory 61 7.62 x 54R mm ammunition cartridges produced in 2006

Documented by CAR field investigation teams in Kobane, Syria, February 2015, and in Tikrit, Iraq, April 2015



Figures 125 and 126

Chinese Factory 61 7.62 x 54R mm ammunition cartridges produced in 2006

Documented by CAR field investigation teams in Al Hasakah, Syria, May 2015, and in Qaraqosh, Iraq, November 2016



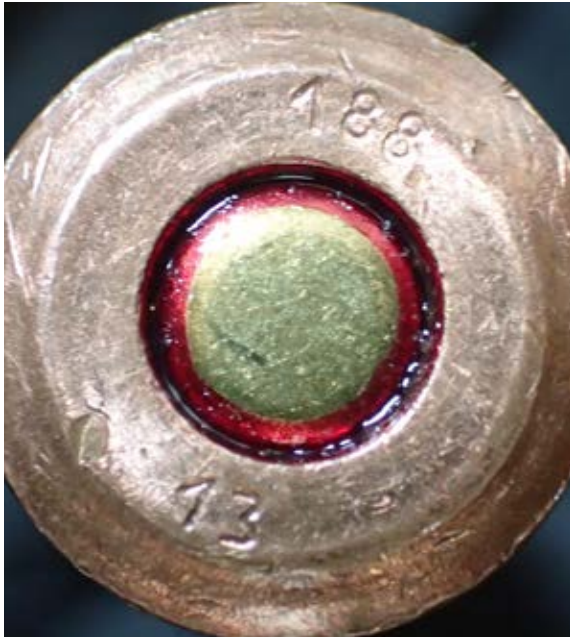
Case 5: 188_13

The Novosibirsk Cartridge Plant in Russia produced 7.62 x 54R mm cartridges with this headstamp in 2013.

Figures 127 and 128

Novosibirsk Cartridge Plant 7.62 x 54R mm ammunition cartridges produced in 2013

Documented by CAR field investigation teams in Kobane, Syria, February 2015, and in Tikrit, Iraq, April 2015



Figures 129 and 130

Novosibirsk Cartridge Plant 7.62 x 54R mm ammunition cartridges produced in 2013

Documented by CAR field investigation teams in Al Qamishli, Syria, May 2015, and in Qaraqosh, Iraq, November 2016





Mosul, Iraq, November 2017

Weapon supply routes

CAR documented 854 weapons that could be paired with at least one other weapon according to the following criteria: identical type; identical factory of production; identical year of manufacture; and serial numbers that are close in sequence. This analysis results in 240 sets of two or more correlated weapons. These factors make it highly likely that at least some of these weapons originated from the same or successive export batches.

Serial number proximity shows that these weapons have spread throughout the region, beyond their intended end users. This diversion possibly predates the birth and growth of the IS group and may have been exacerbated by the supply of older Warsaw Pact weaponry to the region in recent years.

The following weapon types, which CAR documented in both Iraq and Syria, bear serial numbers that are close in sequence:

Figure 131

A Chinese Type 81 7.62 x 39 mm light machine gun

Documented by a CAR field investigation team in Baghdad, Iraq, September 2017



- Chinese Type 69-1 40 mm launchers, Type 56 and 56-1 7.62 x 39 mm assault rifles, Type 81 7.62 x 39 mm light machine guns, and M80 and Type 67-2 7.62 x 54R mm medium machine guns;
- Soviet and Russian AK-47 and AKM 7.62 x 39 mm assault rifles;
- Romanian AKM 7.62 x 39 mm assault rifles;
- Polish Kbk-AKMS 7.62 x 39 mm assault rifles;
- Yugoslav M70B1 7.62 x 39 mm assault rifles;
- East German Mpi-KM 7.62 x 39 mm assault rifles; and
- Hungarian AK-63F 7.62 x 39 mm assault rifles (see Box 9 on p.96).

BOX 9: HUNGARIAN AK-63F 7.62 X 39 MM ASSAULT RIFLES WITH SERIAL NUMBERS THAT ARE CLOSE IN SEQUENCE

Over the course of their fieldwork, CAR investigators documented 112 AK-63F 7.62 x 39 mm assault rifles. The AK-63F is the Hungarian copy of the Soviet AKM assault rifle. The rifle's serial number is characteristic: one letter in Latin script followed by five digits or, in some cases, two letters and four digits. By grouping rifles according to the initial letter(s) of their

serial numbers, CAR has found that 94 of the documented Hungarian rifles can be divided into 24 series of serial numbers that are close in sequence (see Appendix 3).¹¹¹ Each series features weapons documented in both Iraq and Syria. This suggests that the rifles were widely diverted across the region over the last decades.

Figure 132

A Hungarian AK-63F 7.62 x 39 mm assault rifle

Documented by a CAR field investigation team at Camp Speicher, Iraq, April 2017



SECTION 2

ISLAMIC STATE WEAPON PRODUCTION

IS forces have tapped into commercial markets to acquire a range of components and chemical precursors, which the group has used to manufacture improvised weapons and IEDs on an unprecedented scale. The following section presents information gained from formal trace requests that CAR issued to governments and commercial entities, elucidating the lines of procurement employed by IS forces. These findings reveal not only bulk procurement by IS forces—notably, although not exclusively, on Turkish territory—but also repeated acquisitions, whereby the group has consistently sourced its supplies from the same distributors. The findings also illustrate the relative ease of detecting large-scale acquisition by non-state groups (particularly in sales records) and clear avenues for better controlling such access to materiel.

PROCUREMENT OF CHEMICAL EXPLOSIVE PRECURSORS

This subsection documents the supply sources of aluminium paste, nitrate-based fertilisers, and ancillary precursors, all of which IS forces use to manufacture homemade explosives (HMEs) and propellant. The findings underscore the predominant role of the Turkish domestic market

as a source of these precursors, despite some measures enacted by the Government of Turkey to restrict access to certain nitrate fertilisers. The subsection includes findings that CAR initially released in February 2016 and augmented during its later field investigations.¹¹²

Aluminium paste

CAR has determined that IS generally produces HMEs for its IEDs by mixing a strong oxidiser, such as ammonium nitrate, with a fuel, such as aluminium. These chemical precursors are commonly used in the agricultural and industrial sectors and are largely available for purchase on the civilian market.

In 2017, the European Commission amended Regulation No 98/2013 of the European Parliament and of the Council to add aluminium powder to the list of explosive precursors.¹¹³

CAR documented drums of aluminium paste in abandoned IS weapon production facilities in Fallujah, Hawija, Mosul, Ramadi, Tal Afar, and Tikrit.

Terrorist groups are known to use metallic powders such as aluminium as precursors to HMEs.

Case 1

During the second battle of Tikrit (2 March–17 April 2015), Iraqi forces captured a warehouse in which IS forces had mixed aluminium paste with ammonium nitrate in the manufacture of explosives. A CAR field investigation team documented the warehouse's contents on 29 April 2015. The labels affixed to several drums of aluminium paste found at the location indicated production in August and October 2014 by three

different manufacturers: Aldoro, Brazil; Alba Aluminiiu, Romania; and Sunrise Aluminium Pigments, China. The three companies sold the aluminium paste to three Turkish companies based in Istanbul: Gültaş Kimya, Marikem Kimyevi ve Endüstriyel Ürünler, and Metkim Kimyevi Maddeler (Metkim). The three companies stated that they did not export their product to Iraq or Syria.¹¹⁴

Figure 133

A drum of aluminium paste distributed by Gültaş Kimya

Documented by a CAR field investigation team in Tikrit, Iraq, April 2015



Figure 134

A drum of aluminium paste distributed by Marikem Kimyevi ve Endüstriyel Ürünler

Documented by a CAR field investigation team in Tikrit, Iraq, April 2015.



Figure 135

A drum of aluminium paste distributed by Metkim

Documented by a CAR field investigation team in Tikrit, Iraq, April 2015.





Mosul, Iraq, November 2017

CAR documented another drum of aluminium paste, distributed by the Turkish company Metkim, on 29 June 2016, a few days after the recapture of Fallujah. CAR documented the drum in an IS weapon production facility in the city, with markings indicating production on 12 January 2015.

On 22 September 2016, CAR documented an identical drum near Tuz Khurmatu, Iraq. It bore markings indicating production on 18 January 2015.

Likewise, on 11 November 2016, CAR documented another identical drum in an IS weapon production facility in Qaraqosh. The label affixed on the drum indicated production in September 2014.

In February 2017, CAR documented an additional drum in eastern Mosul, with a label indicating production in September 2014 as well.

In September 2017, CAR documented yet another drum in an IS weapon production facility in Tal Afar. The drum's label indicated production on 25 December 2014.

Finally, in November 2017, CAR documented three additional drums in Hawija, produced in June 2014.

Sunrise Aluminium Pigments produced all of the drums, and Metkim distributed them.

Figures 136 and 137

Drums of aluminium paste distributed by Metkim

Documented by CAR field investigation teams in Fallujah, Iraq, July 2016, and Tuz Khurmatu, Iraq, September 2016



Figures 138 and 139

Drums of aluminium paste distributed by Metkim

Documented by CAR field investigation teams in Qaraqosh, Iraq, November 2016, and eastern Mosul, Iraq, February 2017



Figures 140 and 141

Drums of aluminium paste distributed by Metkim

Documented by CAR field investigations teams in Tal Afar, Iraq, September 2017, and Hawija, Iraq, November 2017



In a 22 September 2015 response to a CAR request for information, Metkim stated that it was unable to determine to which customer it had sold items documented by CAR because the company did not register sales by lot number.¹¹⁵ In the correspondence, Metkim also asserted that it did not export its products and that its sales were destined exclusively to the Turkish domestic market. Metkim explained that it had been importing aluminium paste since 1980 for civilian use. The company also shared a letter from the Turkish Ministry of Customs and Trade to distributors, dated 2 July 2015, prohibiting the export of certain goods to Syria (see Appendix 4).¹¹⁶

The ban, effective 1 July 2015, prohibits the export of goods corresponding to some Harmonized Commodity Description and Coding Systems (HS) codes,¹¹⁷ which include aluminium pigments and pastes, across the Syrian border. The United Nations Commodity Trade Statistics Database (COMTRADE) shows a recent 100-fold increase in the export of metallic powders and flake pigments in paste form (based on Turkey's reported trade in materials with relevant HS codes) from Turkey to Syria: from an average of about 1 metric ton per year between 2008 and 2014, to nearly 100

METKIM STATED THAT IT WAS UNABLE TO DETERMINE TO WHICH CUSTOMER IT HAD SOLD ITEMS IN THE LOT DOCUMENTED BY CAR BECAUSE THE COMPANY DID NOT REGISTER SALES BY LOT NUMBER.

metric tons in 2015 alone (see Chart 21). Analysis of Turkish exports of metallic pigments and pastes suggests that this 2015 increase includes Syria (see Chart 22), which received only very small reported exports of Turkish pigments/paste in the previous three years.¹¹⁸ Trade data shows that Iraq is by far the first export destination for these types of goods from Turkey. However, CAR's investigation indicates that Turkish-distributed aluminium pastes documented in IS weapon production facilities were not exported to Iraq by their distributors.

Chart 21
Aluminium paste and pigment exports from Turkey to Syria, 2008–16

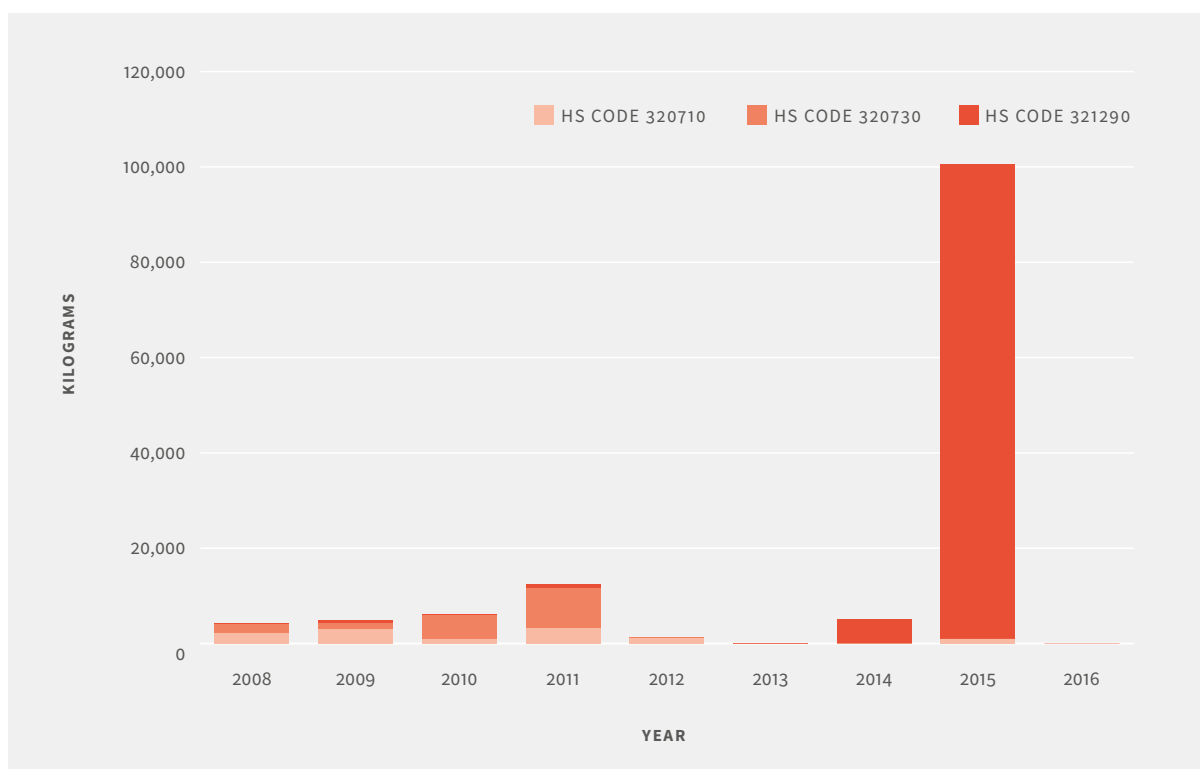
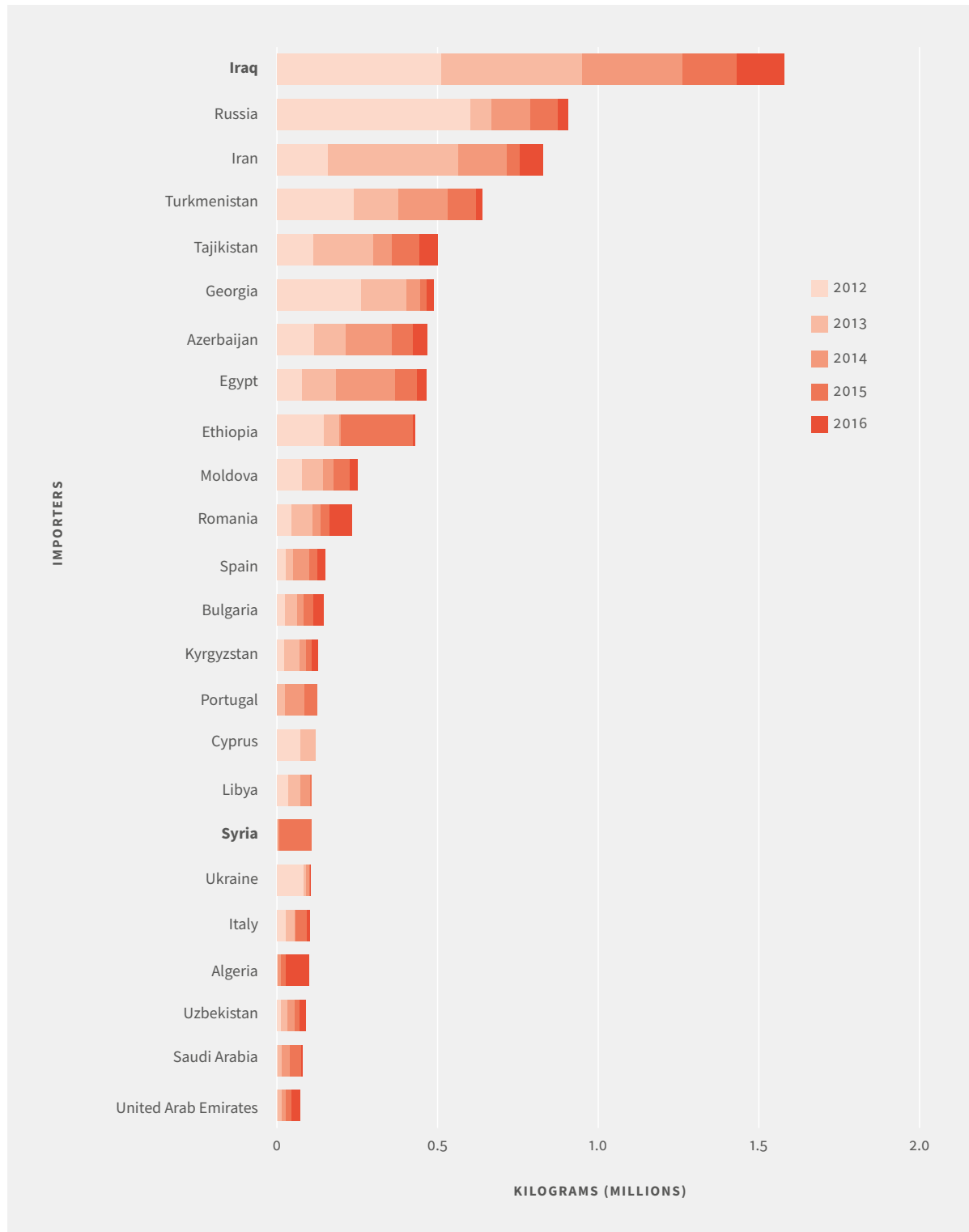


Chart 22

Top 25 destinations of aluminium paste and pigment exports from Turkey, 2012–16



The continuous documentation of aluminium paste distributed by a single company suggests that a single-source diversion contributed to the supply of a critical chemical precursor. IS agents or intermediaries probably acquired the

aluminium paste on the Turkish domestic market before moving it out of the country in late 2014 to early 2015 for use over a long period of time in widespread locations across Iraq.

Case 2

CAR documented aluminium paste from another Turkish distributor, ATR Kimya, in Ramadi. Shortly after the recapture of the city on 9 February 2016, CAR documented several drums of aluminium paste in an IS weapon production facility there. The labels affixed on the drums indicate

manufacture on 2 April 2015. In a phone call on 28 June 2016 to a CAR representative, the company manager stated that ATR Kimya had not exported any goods to Iraq or Syria in the previous two years and was not in a position to trace back the drums to their intended end users.¹¹⁹

Figure 142**Drums of aluminium paste distributed by ATR Kimya**

Documented by a CAR field investigation team in Ramadi, Iraq, February 2016

**Fertilisers**

Due to their chemical properties and their availability on the civilian market, IS forces have made wide use of fertilisers as precursors for HMEs and rocket propellants in their IEDs. CAR has found that IS forces recurrently use ammonium nitrate as an oxidizer in the production of HMEs, and potassium nitrate—in combination with sugar and sorbitol—in the production of rocket propellant.

In June 2016, following a series of attacks on Turkish territory that were attributed to the Kurdistan Workers' Party (PKK), Ankara banned the domestic sale of nitrate-based fertiliser.

Similar to a notable increase in aluminium pigment exports from Turkey to Syria during the same period, UN trade data also shows a dramatic increase in the export of ammonium nitrate¹²⁰ and potassium nitrate¹²¹ from Turkey to Syria in 2014–2015 (see Charts 23 and 24).

Chart 23
Ammonium nitrate exports from Turkey to Syria, 2013–16*

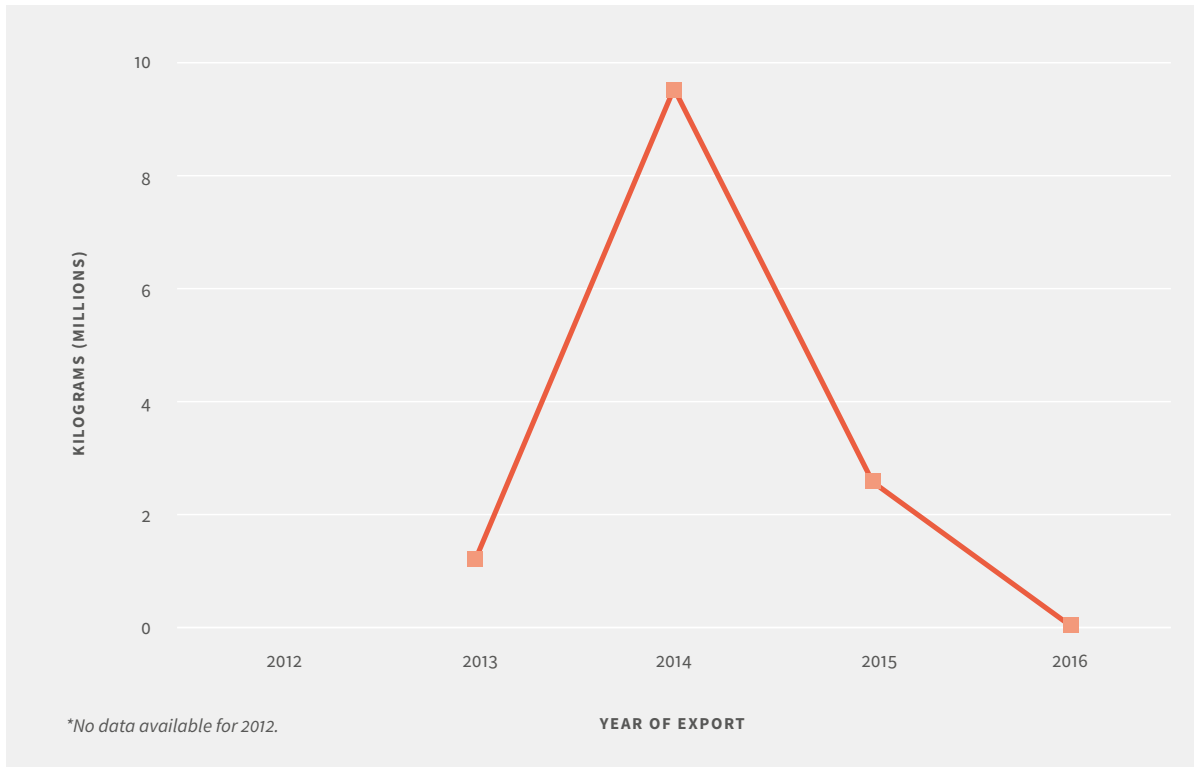
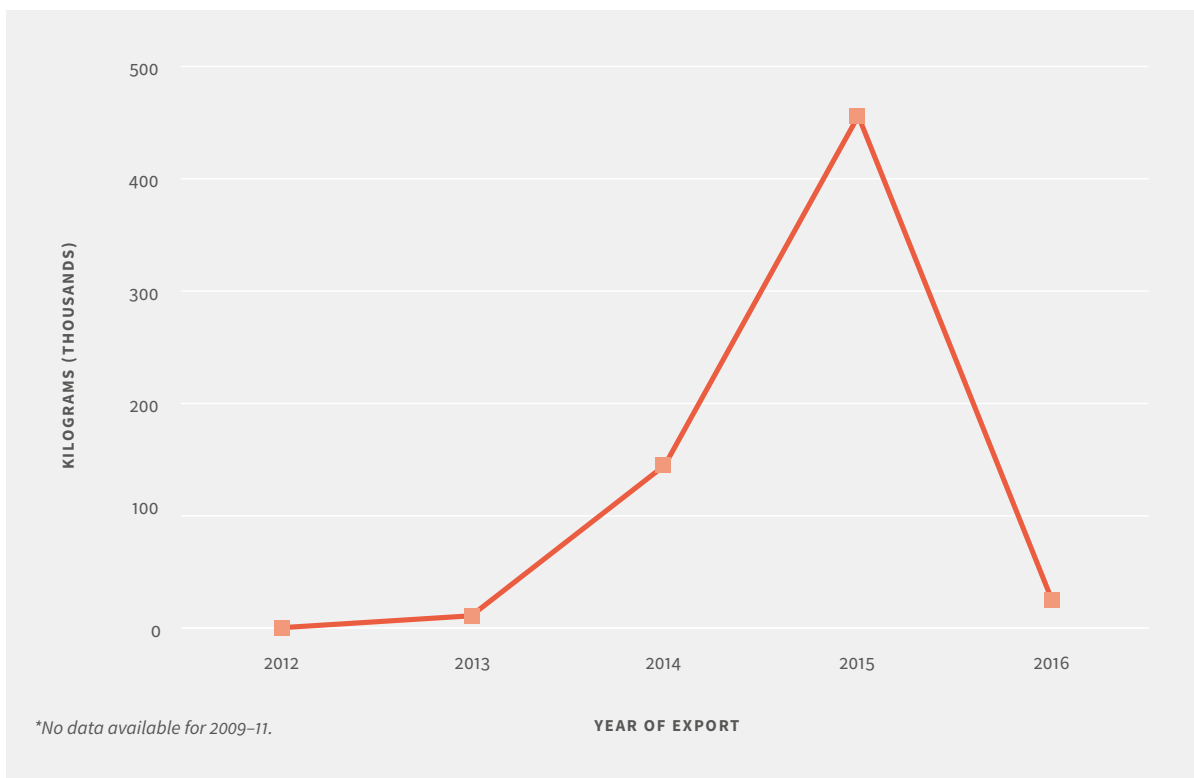


Chart 24
Potassium nitrate exports from Turkey to Syria, 2012–16*



Ammonium nitrate

Case 1

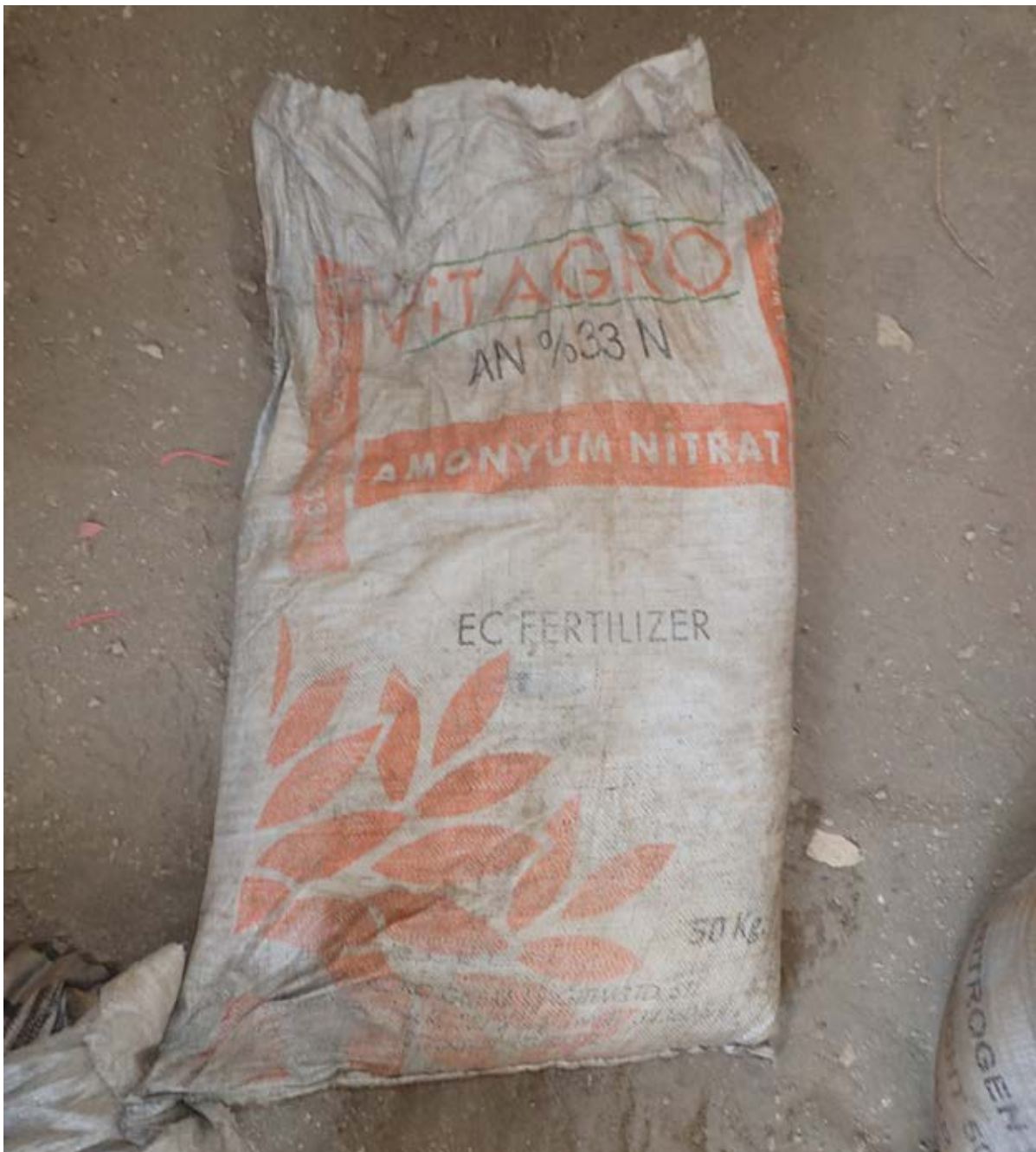
On 21 February 2016, a CAR field investigation team documented a bag of ammonium nitrate in Ramadi. Iraqi forces had recovered the bag from IS forces in Ramadi on 1 February 2016. The Turkish company Vitagro produced the ammonium nitrate on an unknown date. Replying to a CAR

trace request in April 2016, Vitagro stated that it only traded on the Turkish domestic market. Its customers are Turkish fertiliser dealers and distributors, and Vitagro does not conduct sales outside of this market.¹²²

Figure 143

A bag of ammonium nitrate distributed by Vitagro

Documented by a CAR field investigation team in Ramadi, Iraq, February 2016



Case 2

CAR documented a second bag of ammonium nitrate in Ramadi on 21 February 2016. This one was produced by the Turkish company Mert Global in 2015; Iraqi forces captured it from IS forces in Ramadi on 9 February 2016. Previously, in April 2015, CAR had documented a similar bag, produced in 2014 and recovered from IS forces in Tikrit. CAR sent requests for information to Mert

Global on 8 October 2015 and 9 June 2016, but the company has yet to send a written response. The use of ammonium nitrate from the same source, with production and recovery both spanning a year, underlines IS forces' reliance on specific sources for the supply of critical improvised explosive precursors.

Figure 144

A bag of ammonium nitrate distributed by Mert Global

Documented by a CAR field investigation team in Tikrit, Iraq, April 2015



Figure 145

A bag of ammonium nitrate distributed by Mert Global

Documented by a CAR field investigation team in Ramadi, Iraq, February 2016



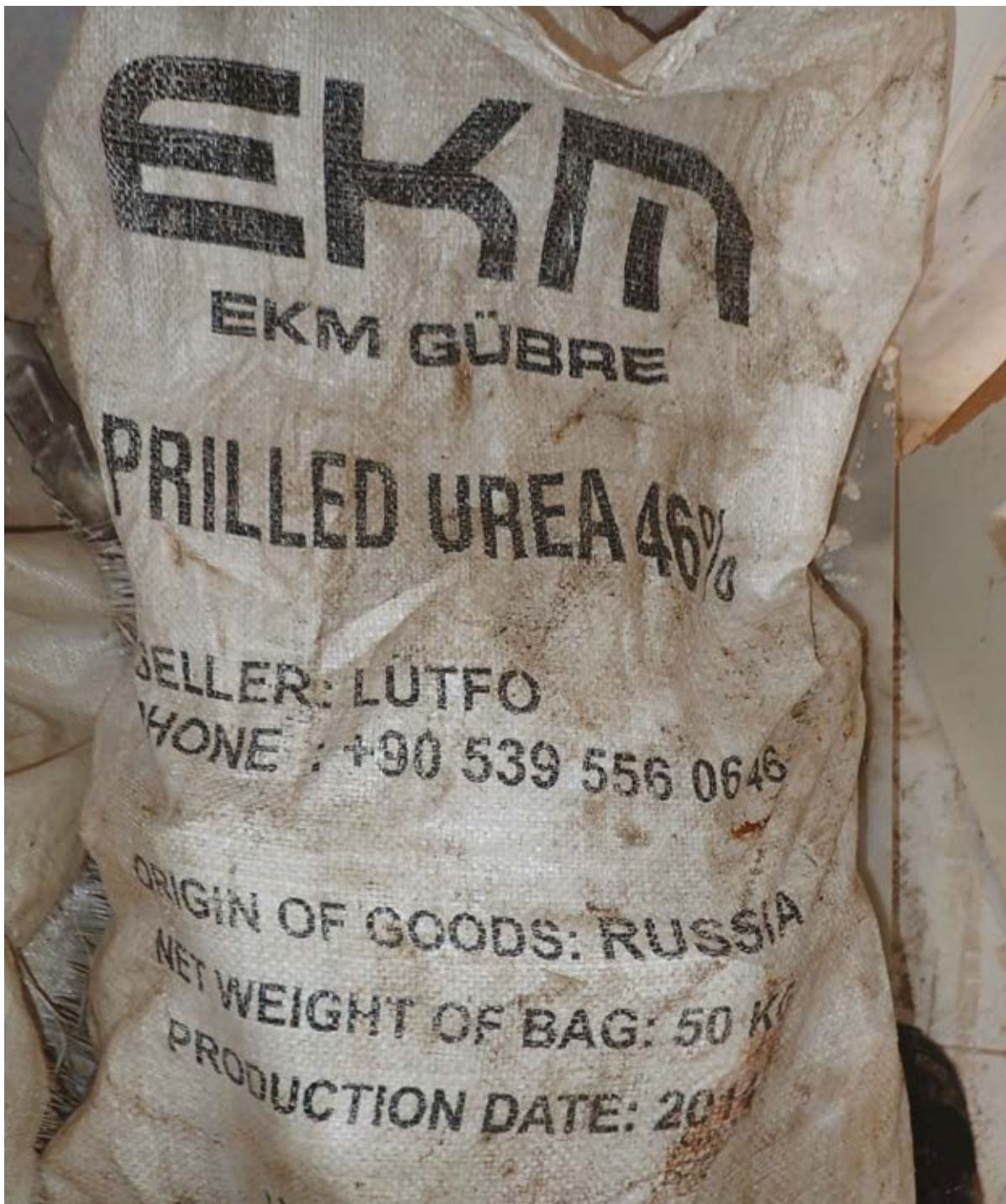
Case 3

During the siege of Kobane, IS forces used urea to make improvised explosives for use against YPG forces. On 25 February 2015 in Kobane, a CAR field investigation team documented urea that had been produced in Russia in 2014 and distributed by

the Turkish company EKM Gübre. CAR was unable to locate EKM Gübre; repeated attempts to reach the company through the phone number printed on the bag did not yield any results.¹²³

Figure 146**A bag of ammonium nitrate distributed by EKM Gübre**

Documented by a CAR field investigation team in Kobane, Syria, February 2015



Potassium nitrate

Case 1

On 12 November 2016, CAR documented a bag of potassium nitrate in an abandoned IS weapon production facility in eastern Mosul. The potassium nitrate, manufactured in Turkey on an unknown date by the company Toros, was being used by IS

forces in the manufacture of rocket propellant. CAR sent a request for information to Toros on 26 November 2016 but has yet to receive a reply from the company.

Figure 147

A bag of potassium nitrate distributed by Toros

Documented by a CAR field investigation team in eastern Mosul, Iraq, November 2016



IN REPLY TO CAR TRACE REQUESTS REGARDING THE BAGS DOCUMENTED IN AND AROUND MOSUL, DOKTOR TARSA TARIM CONFIRMED THAT ALL THE BAGS HAD BEEN DISTRIBUTED IN TURKEY, TO TURKISH COMPANIES.

Case 2

On 11 and 12 November 2016, a CAR field investigation team documented several bags of potassium nitrate in abandoned IS weapon production facilities in and around eastern Mosul. The potassium nitrate, marketed by the Belgium-based company SQM Europe and distributed by the Turkish company Doktor Tarsa Tarım, is used in the manufacture of rocket propellant. The potassium nitrate CAR documented in and around Mosul was produced on unknown dates in 2014 and in April, May, and September 2015.

In September 2017, CAR documented additional potassium nitrate bags from 2015 in an IS weapon production facility in Tal Afar. Some of the bags shared the same batch number as those that CAR documented in and around Mosul. In reply to CAR trace requests regarding the bags documented in

and around Mosul, Doktor Tarsa Tarım confirmed that all the bags had been distributed in Turkey, to Turkish companies. However, Doktor Tarsa Tarım was unable to match lot numbers with customers.¹²⁴

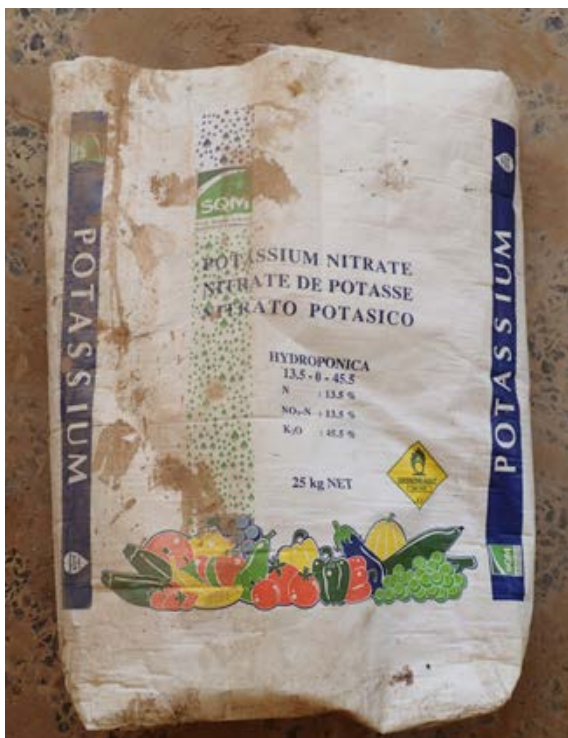
In June 2016 in Fallujah, CAR field investigation teams had documented similar bags of potassium nitrate from the same company. At the time, Doktor Tarsa Tarım had also indicated that the documented packaging and batch numbers had only been used in the Turkish domestic market.¹²⁵

In November 2017, CAR documented additional bags of potassium nitrate distributed by Doktor Tarsa Tarım in an IS weapon production facility in Hawija.

Figures 148 and 149

Bags of potassium nitrate distributed by Doktor Tarsa Tarım

Documented by CAR field investigation teams in Fallujah, Iraq, July 2016, and Qaraqosh, Iraq, November 2016



Figures 150 and 151

Bags of potassium nitrate distributed by Doktor Tarsa Tarım

Documented by CAR field investigation teams in eastern Mosul, Iraq, November 2016, and Tal Afar, Iraq, September 2017



THE FINDINGS UNDERSCORE THE PREDOMINANT ROLE OF THE TURKISH DOMESTIC MARKET AS A SOURCE OF THESE PRECURSORS, DESPITE SOME MEASURES ENACTED BY THE GOVERNMENT OF TURKEY TO RESTRICT ACCESS TO CERTAIN NITRATE FERTILISERS.

Figure 152

A bag of potassium nitrate distributed by Doktor Tarsa Tarım

Documented by a CAR field investigation team in Hawija, Iraq, November 2017



Case 3

On 11 and 12 November 2016, a CAR field investigation team documented bags of potassium nitrate in abandoned IS weapon production facilities in Qaraqosh and eastern Mosul. The items were manufactured in Russia by Uralchem, and distributed by the Latvian company Uralchem Trading. In Fallujah on 29 June 2016, CAR had documented similar bags of potassium nitrate, which had been hidden inside bags that had

previously contained date fruit, possibly in an effort to conceal them for transport inside the city. In response to a CAR trace request, the Latvian distributor reported that it had not sold this product to Iraq, but that it had made irregular sales to Syria until 2011. The company indicated that the packaging dated back to 2010. At the time, a limited-quantity shipment had been made to Syria.¹²⁶

Figure 153**A bag of potassium nitrate manufactured by Uralchem**

Documented by a CAR field investigation team in Fallujah, Iraq, June 2016

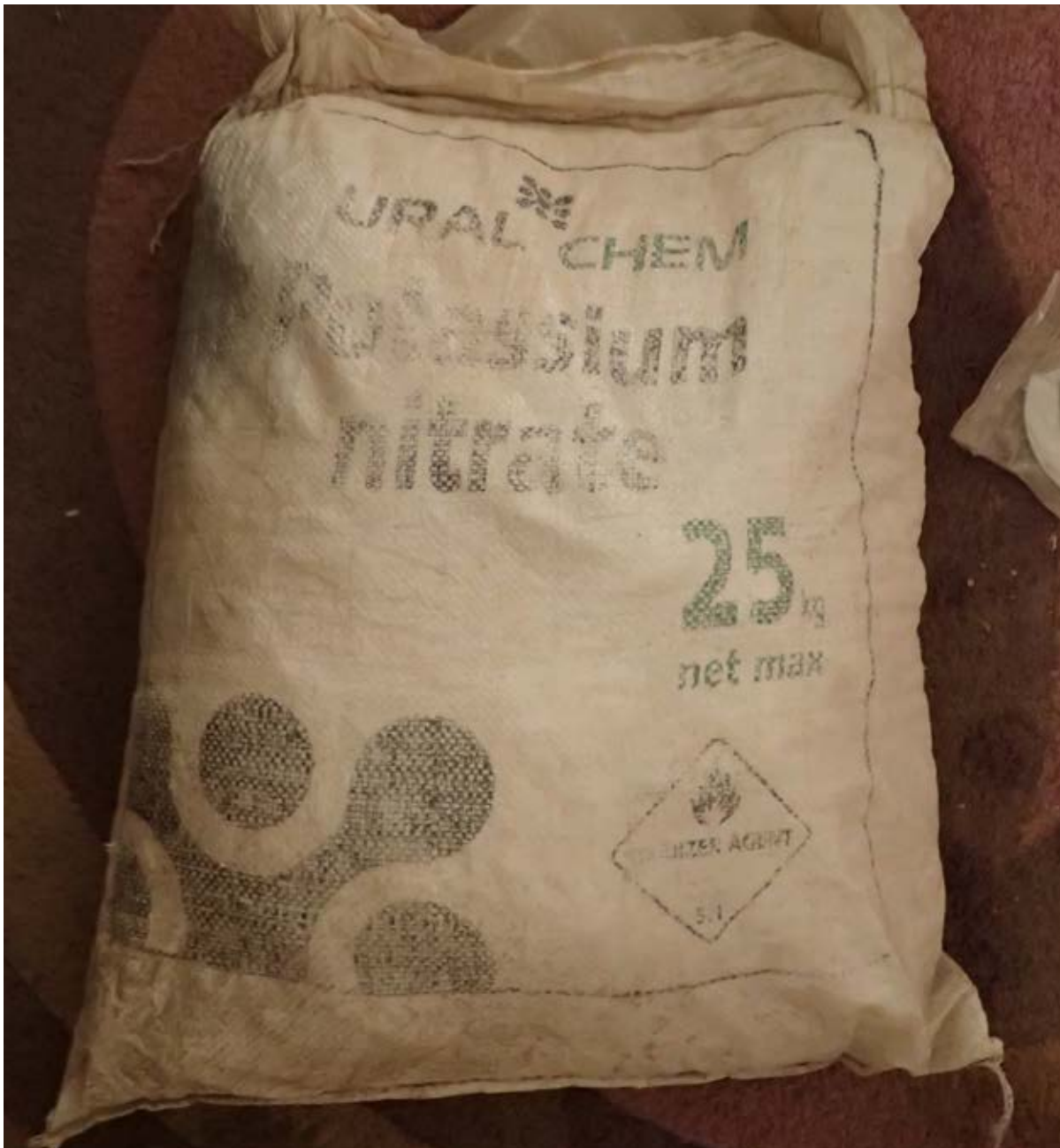


Figure 154 and 155

Bags of potassium nitrate manufactured by Uralchem

Documented by CAR field investigation teams in Qaraqosh and eastern Mosul, Iraq, November 2016



In November 2017, in Hawija, CAR documented additional bags of potassium nitrate manufactured by Uralchem.

Figure 156

A bag of potassium nitrate manufactured by Uralchem

Documented by a CAR field investigation team in Hawija, Iraq, November 2017



BOX 10: BIOLCHIM: A FULL CHAIN OF CUSTODY

In some cases, CAR has been able to trace the full chain of custody of documented items. This is the case, for example, for a bag of nitrate-based fertiliser that CAR traced from its producer to its distributor, to a retailer, to an IS cache, and finally to its recovery by Iraqi forces.

In September 2016, CAR documented a bag of nitrate-based fertiliser that Iraqi forces had recovered from an IS weapon and IED cache in Mahmudiyah, south of Baghdad, in June 2016.

CAR traced this item in cooperation with the Italian producer Biolchim and found that the bag was part of an order of 12,600 kg placed by the Jordanian company Green Land. Biolchim shipped the batch in August 2013 and Green Land received it the following month.¹²⁷ CAR subsequently traced the item with the distributor, Green Land, and ascertained that all the bags of this batch had been sold to Jordanian end users except 160 bags, which Green Land had sold to an Iraqi dealer based in Baghdad in May 2014.¹²⁸

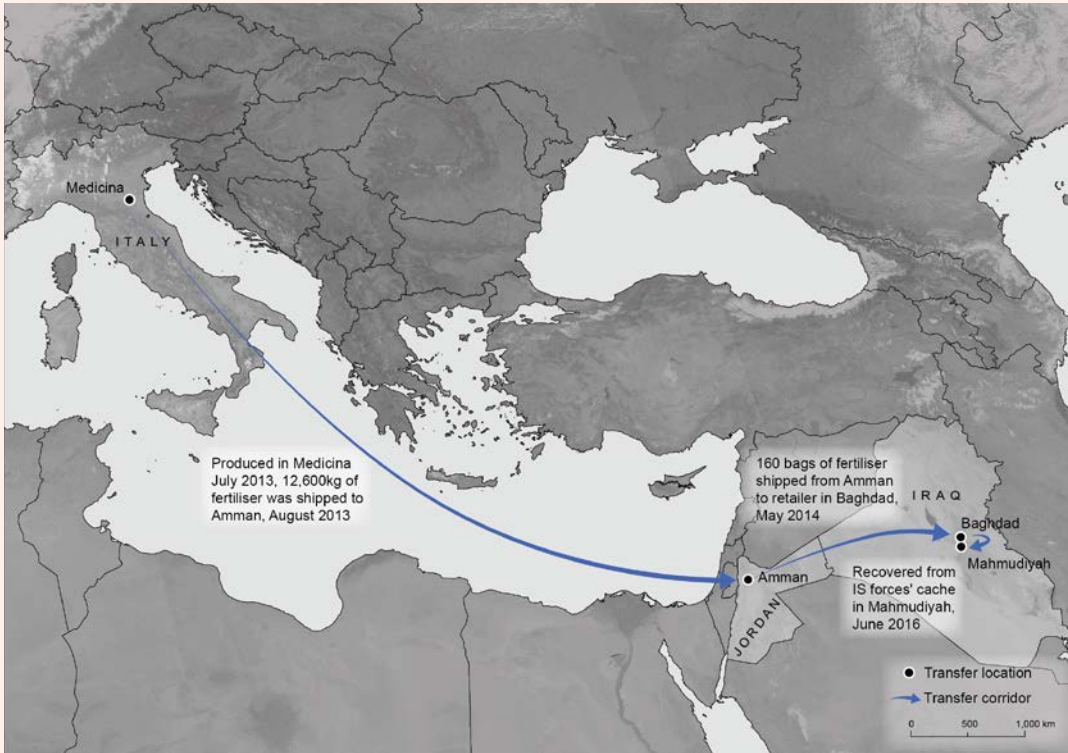
Figure 157**A bag of fertiliser produced by Biolchim**

Documented by a CAR field investigation team in Mahmudiyah, Iraq, September 2016



Map 4

Distribution of Biolchim fertiliser bag documented by CAR in Mahmudiyah, September 2016



Other chemical precursors

In their production of rocket propellant, IS forces are using potassium nitrate in combination with artificial sweeteners and sugar.

Sorbitol

On 12 and 13 November 2016, CAR documented a sample of seven bags from more than 100 bags of sorbitol that had been abandoned in IS weapon production facilities in and around eastern Mosul. The bags were manufactured in France by the company Tereos in March and April 2015. Sorbitol is a sugar alcohol with a sweet taste, widely used in food, health and cosmetic products. In view of its chemical properties, IS forces use sorbitol in the production of rocket propellant.

In a reply to a CAR trace request, Tereos confirmed that the bags documented by CAR had been sent to three Turkish companies and one Dutch company.¹²⁹ In some cases, the same batch number was sent to several companies. Only one company received all of the documented batches: Sinerji, a company based in Turkey and specialised in the distribution of food, healthcare products, paper, and textile starches. Sinerji acts as the Tereos distributor within Turkey.

Figure 158 and 159

Bags of sorbitol in an abandoned IS weapon production facility

Documented by a CAR field investigation team in eastern Mosul, Iraq, November 2016



SORBITOL IS A SUGAR ALCOHOL WITH A SWEET TASTE, WIDELY USED IN FOOD, HEALTH AND COSMETIC PRODUCTS WHICH ISLAMIC STATE FORCES USE IN THE PRODUCTION OF ROCKET PROPELLANT.

Figure 160

A bag of sorbitol in an abandoned IS weapon production facility

Documented by a CAR field investigation team in Qaraqosh, Iraq, November 2016



Figure 161

A bag of sorbitol in an abandoned IS weapon production facility

Documented by a CAR field investigation team in western Mosul, Iraq, May 2017



On 23 May 2017 in western Mosul, a CAR field investigation team documented three bags of sorbitol that had been produced by Tereos in July 2015, shipped to a German company in August 2015, and sent to Sinerji in November 2015.¹³⁰ On 15 August 2017, Sinerji informed CAR that the batches documented by CAR in and around Mosul were part of two transfers totaling 78 metric tons that the company supplied to two Syrian sister companies Ale Cemal Elsavi and Ali Salah Edin Muhyiy, based in Aleppo, Syria. Sinerji reported that the two Syrian companies have been purchasing sorbitol from Turkey ‘for years’

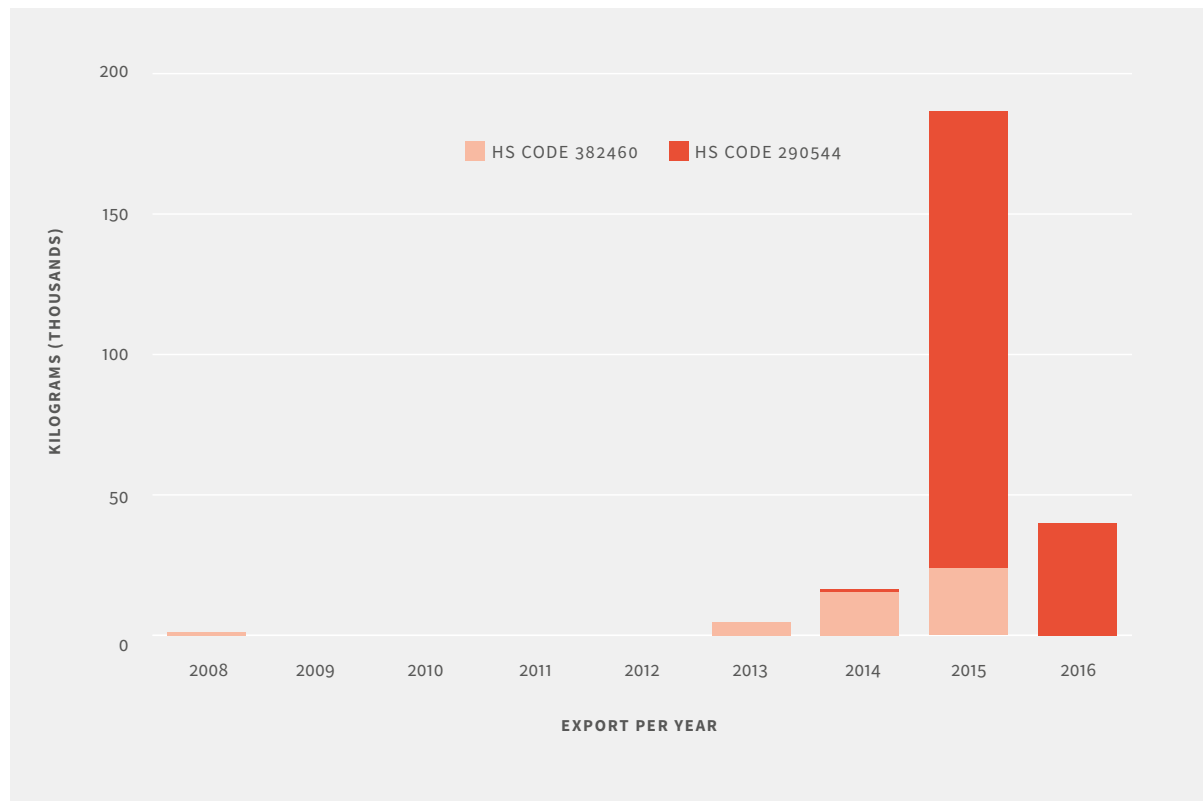
and that Sinerji never exported sorbitol to Iraq.¹³¹ Sinerji confirmed that at least part of the goods were exported through Turkey’s Öncüpınar border crossing. The export declarations are dated 1 September 2015 and 22 December 2015.¹³²

Sinerji provided CAR with the phone numbers of the two Syrian sister companies to which it had sold sorbitol. The phone numbers are both associated with the same individual, who is reportedly based in Al Bab (which IS forces controlled from 2013 to 2016).¹³³

The two transfers accounted for about 5 per cent of Turkey's global sorbitol exports in 2015, and about 40 per cent of all its sorbitol exports to Syria that year. Sorbitol exports from Turkey to Syria increased greatly between 2014 and 2015, from about 16.5 metric tons to nearly 187 metric tons (see Chart 25). The two Sinerji shipments made to Syria in 2015 are nearly five times greater than all of Turkey's sorbitol exports to Syria the previous year.

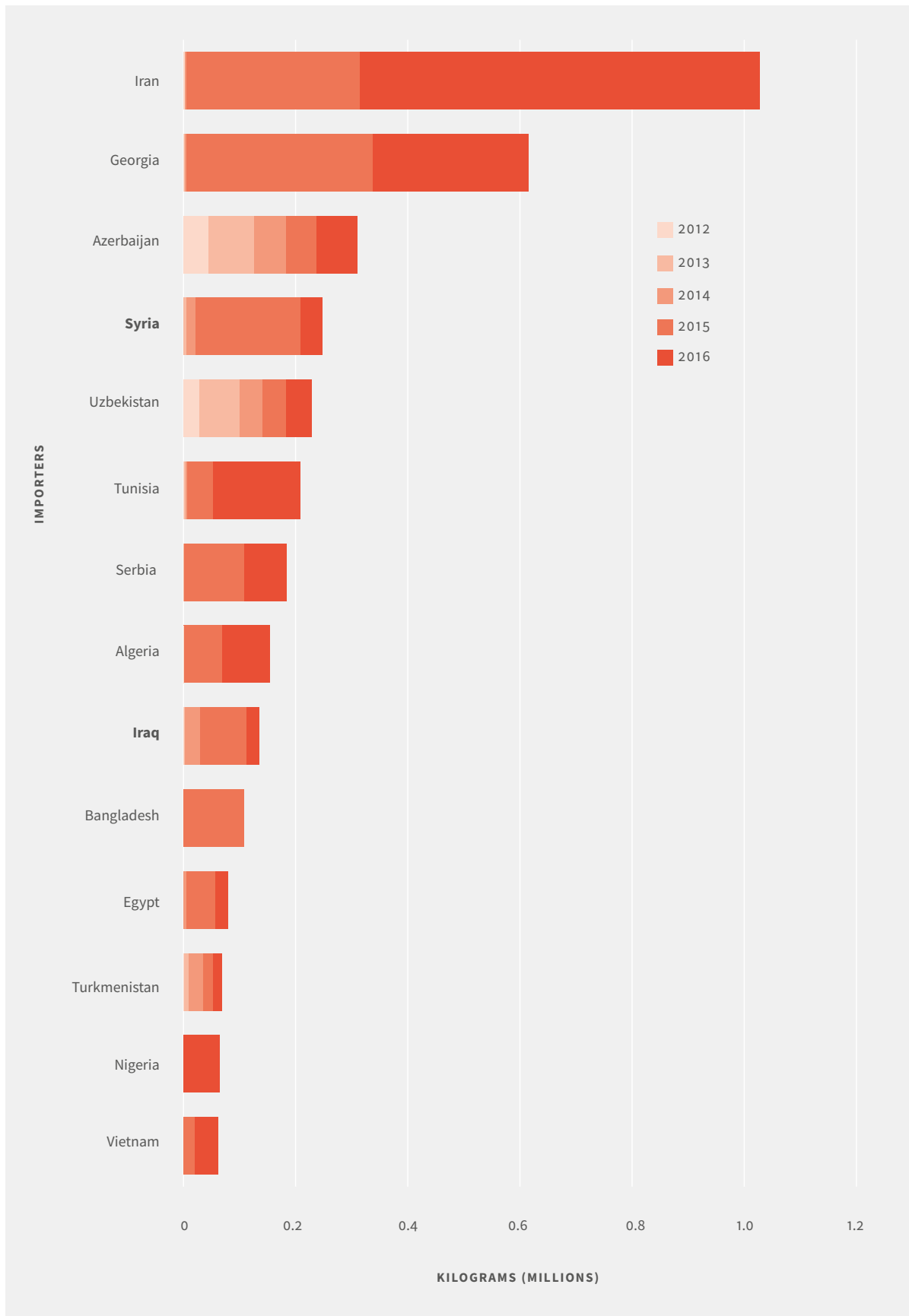
UN trade data indicates a spike in Turkish sorbitol exports around the world in 2015 and 2016, but most of this trade is accounted for by a significant increase in exports to Iran. Exports to Syria dropped dramatically in 2016 (see Chart 26).

Chart 25
Sorbitol exports from Turkey to Syria, 2008–16



Mosul, Iraq, November 2017

Chart 26
Top 15 importers of sorbitol exported from Turkey



In September 2017, CAR documented additional bags of Tereos sorbitol in an IS weapon production facility in Tal Afar.

Figure 162

A bag of sorbitol in an abandoned IS weapon production facility

Documented by a CAR field investigation team in Tal Afar, September 2017

THE TWO SINERJI SHIPMENTS MADE TO SYRIA IN 2015 ARE NEARLY FIVE TIMES GREATER THAN TURKEY'S ENTIRE 2014 SORBITOL EXPORTS TO SYRIA.



BOX 11: SUGAR WITH VARIOUS SUPPLY CHAINS

CAR has found that the sourcing of sugar, which IS forces use in the production of rocket propellant, does not follow the single-source dynamic observed with the supply of other precursors described above. Indeed, CAR traced at least part of the supply to Iraq.

In June 2016, CAR documented sugar in an abandoned IS weapon production facility in Fallujah. Al Khaleej Sugar, a company based in the United Arab Emirates, shipped the sugar to the Iraqi Ministry of Trade in February 2015.¹³⁴ In November 2016 in eastern Mosul, CAR also documented the presence of Al Khaleej sugar in an abandoned IS weapon production facility. The company had

shipped the sugar on 25 September 2013, also to the Iraqi Ministry of Trade.¹³⁵

In addition, in November 2016 in and around eastern Mosul, a CAR field investigation team documented sugar produced by the Lebanese company Chekka Sugar Refinery in November 2015, and by the Turkish company Türkşeker, manufactured on an unknown date. Lastly, in September 2017, a CAR field investigation team documented a bag of sugar, produced by the Thai company Cristalla, in an IS weapon production facility in Tal Afar. CAR was unable to reach the company for more information.

Figure 163

A bag of sugar distributed by Al Khaleej Sugar

Documented by a CAR field investigation team in Qaraqosh, Iraq, November 2016



These findings point to the Turkish domestic market as a primary source of chemical precursors used by IS forces in the manufacture of HME and propellant. They also expose weaknesses in supply-side controls, which are designed to monitor the end use of such chemicals, as these products move along the supply chain. A

number of local Turkish distributors, for example, claimed in their responses to CAR's trace requests that their records did not include the requisite information to identify specific customers. These gaps in information make identifying, and hence curbing, terrorist acquisition of precursors extremely difficult.

PROCUREMENT OF TOXIC INDUSTRIAL CHEMICALS

Case 1

In May 2017 in Mosul, a CAR field investigation team documented agricultural pesticides that IS forces had used or repurposed as toxic industrial chemicals (TICs) in the production of anti-personnel IEDs. This is not the first time that CAR has reported on IS production and deployment of TIC-based IEDs in the region. In June 2015, CAR documented the manufacture and use of rudimentary chemical projectiles by IS forces in Syria.¹³⁶

CAR documented a total of nine metal flasks with original labels, which described the contents as QuickPhos Pesticide. The flasks were filled with aluminium phosphide tablets, which are commonly employed as a rodenticide in agricultural storage facilities. CAR did not open the flasks and, consequently, could not determine whether the original contents had been modified. CAR documented all the flasks while the containers remained in the custody of Iraqi forces, following their recovery from IS positions.

Figure 164

Seven of the nine modified aluminium phosphide flasks recovered by Iraqi security forces

Documented by a CAR field investigation team in eastern Mosul, Iraq, May 2017



IS forces had pierced the plastic cap of each container to insert a length of safety fuse. When ignited, the safety fuse burns for a predetermined period of time, depending on the length of the fuse. The safety fuses protruding from each of the flasks had been cut to roughly the same length, which suggests that the fuses would burn for approximately the same amount of time before their flames would reach the contents of the container.

Handwritten markings on the flasks, presumably added by IS forces, suggest that the fuse time is 25 seconds. Iraqi forces reported that IS forces deploy

TIC-based IEDs as hand grenades, which would account for the length of the safety fuse.

Aluminium phosphide is a common pesticide and fumigant. In contact with water, it releases phosphine, a very toxic, colourless gas. Contact with air moisture immediately causes a chemical reaction that results in the release of this gas. Higher levels of humidity result in a higher phosphine concentration in the air.¹³⁷

On 7 May 2017, when Iraqi forces recovered some of the flasks, the average air humidity in Mosul was around 30 per cent.¹³⁸ Between 10 and 19 May,

when Iraqi forces recovered the remaining flasks, it varied between 8 and 24 per cent; the average humidity for the period was 16.4 per cent.¹³⁹ Such devices were probably developed, produced, and deployed over a number of months, perhaps until rainfall and humidity rendered them more potent.¹⁴⁰

Due to safety concerns, CAR investigators were unable to document the precise contents of the flasks or the means of dispersion. Iraqi state forces responsible for recovering the items reported a strong smell of garlic and resulting respiratory irritation, which is consistent with documented effects of phosphine gas.¹⁴¹

Case 2

In September 2017, a CAR field investigation team documented a 240-kg drum of diphenylmethane-4,4'-diisocyanate, produced by the Italian company ELAchem, in an IS research and development

The original label, affixed to each of the flasks, had been painted over with green, white, or black paint.

The nine flasks documented by CAR were identical in construction and bore the same batch number. All originally contained QuickPhos fumigant, manufactured in August 2015. Iraqi security forces recovered the flasks on two different dates in two different neighbourhoods of western Mosul (Al Hermat and Al Rif'ai), which suggests that their use was not limited to a single incident. Having requested more information from the manufacturer in order to identify the items' full chains of custody, CAR is currently awaiting a reply.

workshop in Tal Afar. ELAchem indicated that it had supplied this product more than ten years earlier, to customers based in Hama, Syria.¹⁴²

Figure 165

A drum of diphenylmethane-4,4'-diisocyanate produced by the Italian company ELAchem

Documented by a CAR field investigation team in Tal Afar, Iraq, September 2017



Case 3

In the same workshop, CAR also documented a 250-kg drum of toluene diisocyanate. The German company BASF manufactured this product and sold it to the Dutch company Solvochem Holland BV in 2012, which in turn sold it to Hemn Group, a company that produces flexible foam for furniture and mattresses and is based in Duhouk, Iraq. Hemn Group confirmed having received

a complete delivery, stating that the business occasionally lends other foam-making companies material if they are short of product but that no records are kept of any such agreements. According to BASF, there are no foam-making companies based in Tal Afar.¹⁴³ It is unclear how IS forces were using the products.

Figure 166**A drum of toluene diisocyanate produced by the German company BASF**

Documented by a CAR field investigation team in Tal Afar, Iraq, September 2016



PROCUREMENT OF IED CONTAINERS

Containers, which are used to house explosive main charges, are a key component of IEDs. Since such containers are typically repurposed from packaging supplied with commercial products, they are often traceable in manufacturers' sales records. The acquisition by IS forces of these containers provides important insights into the

Case 1

On 19 January 2015 in Makhmour, Iraq, and again near the Mosul Dam on 14 February 2015, CAR investigation teams documented white petroleum drums that had been manufactured in Iran for export by the Ehsan Chemi Company. The drums were filled with homemade explosives whose

group's acquisition networks. Moreover, as the following cases indicate, these findings reinforce many of the observations made in the previous section of this report—namely the critical role of Turkey as a source of components and chemical precursors that IS forces used to manufacture improvised weapons and IEDs.

exact nature is unknown. Peshmerga forces recovered the barrels in January and February 2015 in Khazr, Iraq, and near the Mosul Dam. CAR's attempt to contact the Ehsan Chemi Company yielded no results.¹⁴⁴

Figure 167 and 168

White petroleum drums, manufactured in Iraq

Documented by CAR field investigation teams near the Mosul Dam, Iraq, February 2015, and in Makhmour, Iraq, January 2015



Case 2

In April 2015 in Tikrit, a CAR field investigation team documented hydrogen peroxide drums recovered from an IS cache in the city. The hydrogen peroxide had been produced in the Netherlands in 2014 before being exported to Turkey. In 2016, CAR determined that the Turkish company Diversey Kimya had distributed the batch to Mazen Khanati Serrieh Trading & Distributing, a distributor based in Erbil, Iraq. From there, the distributor transferred drums from the batch to two end

users in Iraq: Al Safi Danone, also based in Erbil, and the Karwanchi Group, based in Kirkuk.¹⁴⁵ At the time that CAR's report 'Tracing the Supply of IED Components Used in Islamic State IEDs' was released, the two Iraqi end users had not replied to CAR's requests for information.¹⁴⁶ In March 2017, however, the Karwanchi Group replied to CAR, stating that all drums of the batch documented in Tikrit by CAR were accounted for.¹⁴⁷

Figure 169 and 170**A hydrogen peroxide drum manufactured in the Netherlands***Documented by a CAR field investigation team in Tikrit, Iraq, April 2015***Case 3**

On 18 February 2016, a CAR field investigation team documented three drums of unidentified HMEs; all the drums previously contained chemicals used in the textile industry. Iraqi forces recovered the

drums during the recapture of Ramadi, in February 2016. Three different Turkish companies produced the original chemicals and two shipped them independently to the same Turkish company.

Figure 171**Drums used as IED containers (three of the drums featured readable labels)***Documented by a CAR field investigation team in Al Khalidiyah, Iraq, February 2016*

The first drum originally contained 120 kg of an acrylic polymer-based binder manufactured by CHT Tekstil Kimya, a Turkish company based in Istanbul and part of the CHT Group, headquartered in Germany. CHT Group confirmed that on 29 December 2014, its Turkish affiliate shipped

20 such drums to the company Matesa Tekstil, based in Kahramanmaraş, 70 km north-west of Gaziantep, by the Turkey–Syria border. According to CHT Tekstil Kimya, Matesa Tekstil does not retransfer its products to third parties.¹⁴⁸

Figure 172

A label on a drum repurposed as an IED container

Documented by a CAR field investigation team in Al Khalidiyah, Iraq, February 2016



The second drum originally contained 120 kg of an optical brightener manufactured by Erca Group Kimya, a Turkish company based in Istanbul that is part of the Erca Group, headquartered in Italy. Erca Group confirmed that it sold 112 Blancolux 120-kg drums to Matesa Tekstil, its only buyer of such products, between 2015 and 20 April 2016; 93 of the drums were shipped between 15 January 2015 and 1 February 2016, before Ramadi was recaptured. According to Erca Group Kimya, Matesa

Tekstil is the end user of the product and does not retransfer it. Erca Group Kimya indicated, however, that Matesa Tekstil supplies empty drums to third parties in the region.

Two companies buy empty drums from Matesa Tekstil: Ekomar Geridönüşüm, also based in Kahramanmaraş, and Sinan Keleş, based in Gaziantep. Both have yet to answer CAR's trace requests, sent on 10 October 2016.¹⁴⁹

Figure 173**A label on a drum repurposed as an IED container**

Documented by a CAR field investigation team in Al Khalidiyah, Iraq, February 2016



The third drum originally contained 130 kg of a polyurethane compound manufactured by the Turkish company Polenkim Tekstil on 16 September 2014. Polenkim Tekstil has yet to reply to a CAR trace request, sent on 15 April 2016.

Figure 174**A label on a drum repurposed as an IED container**

Documented by a CAR field investigation team in Al Khalidiyah, Iraq, February 2016



Case 4

On 21 February 2016, in an abandoned IS weapon production facility in Ramadi, a CAR field investigation team documented several empty 20-kg drums that had previously contained pewter. The containers were stored in the facility. Labels on the containers indicate that their original content had been produced on 20 November 2014 by Chemours Belgium. The manufacturer confirmed that it sold the batch documented by CAR to a single customer in Turkey: Almesan Alüminyum

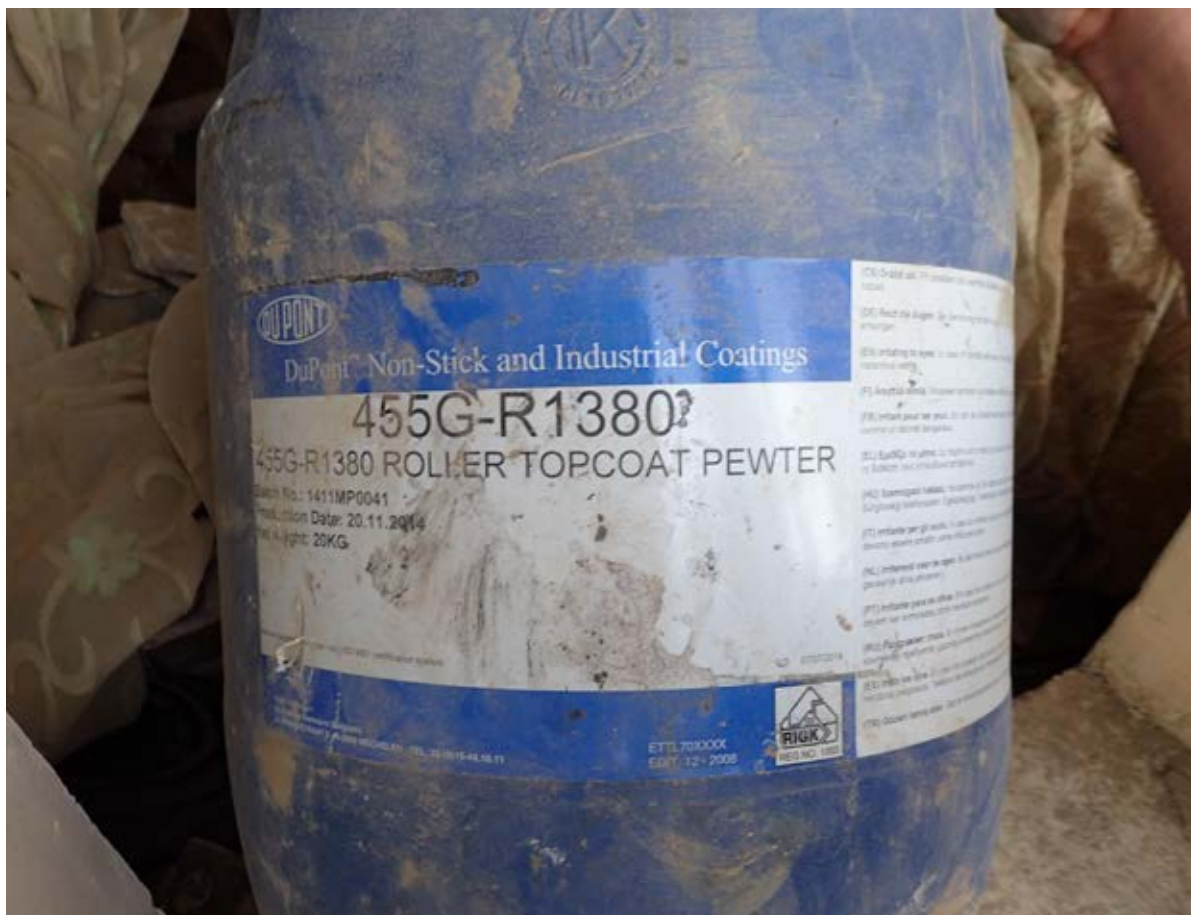
Sanayi, a company that uses the pewter for cookware production and reportedly does not retransfer it.¹⁵⁰

Almesan also sells its empty drums to two recycling companies, Dinç Atık Yönetimi and Vatan Varil, both based in the Kocaeli province of Turkey, near Istanbul.¹⁵¹ To date, neither has answered CAR's request for information sent on 16 September 2016.

Figure 175

A drum of pewter repurposed as an IED container

Documented by a CAR field investigation team in Ramadi, Iraq, February 2016



Summary

With the extensive support of manufacturing companies, CAR traced most of the documented containers to either Turkish production, or to exports consigned to Turkey. A number of local Turkish distributors have proved reluctant to cooperate with CAR's requests for information, which makes it difficult to clarify the exact supply

routes extending from Turkey to Syria and Iraq. However, these findings underscore the degree to which the Turkey-Syria border, in particular, remained open to transactions (whether commercial or otherwise) throughout most of the period under study (2014-17).

PROCUREMENT OF DETONATING CORD AND SAFETY FUSES

IS forces use detonating cord and safety fuses in the manufacture of a range of improvised weapons and IEDs. These include improvised mortar

projectiles and rockets and elements of IEDs that are designed to disperse toxic industrial chemicals (see above).

Case 1

During the siege of Kobane, YPG forces captured detonating cord from IS forces. A CAR field investigation team documented the components in Kobane on 24 February 2015. The Gulf Oil Corporation in India had produced a spool of detonating cord and exported it to the Turkish

company Nitromak Dyno Nobel in Ankara. The Indian company Solar Industries produced an additional two spools on 21 and 23 October 2012 and exported them (on an unspecified date) to the Lebanese company Maybel, headquartered in Beirut.¹⁵²

Figure 176

A spool of detonating cord produced in India and exported to Turkey in 2014

Documented by a CAR field investigation team in Kobane, Syria, February 2015



Figure 177

A spool of detonating cord produced in India and exported to Turkey in 2012 or 2013

Documented by a CAR field investigation team in Kobane, Syria, February 2015



Figure 178

A spool of detonating cord produced in India in 2012 and exported to Lebanon

Documented by a CAR field investigation team in Kobane, Syria, February 2015



Figure 179

A spool of detonating cord produced in India in 2012 and exported to Lebanon

Documented by a CAR field investigation team in Kobane, Syria, February 2015



CAR also documented the use of Solar Industries detonating cord by IS forces on the Makhmour front line in Iraq at the end of 2014. There is no evidence to indicate to which regional entity Solar Industries supplied the cord.

A representative of Nitromak Dyno Nobel told CAR that the company sold detonating cord only to licensed Turkish companies, and that it did not export this product to Iraq or Syria.¹⁵³ The Turkish authorities failed to respond to repeated requests for information, leaving CAR unable to identify the chain of custody of the various brands of detonating cord from Ankara to Kobane.

Case 2

On 24 February 2015, a CAR field investigation team in Kobane documented a spool of detonating cord produced by Premier Explosives in India. The company has confirmed that it sold 6 million metres of detonating cord to the Mechanical Construction Factory in Syria in 2009 and 2010.¹⁵⁵ In December 2011, the European Union placed the Mechanical Construction Factory on a sanctions list

Case 3

A CAR field investigation team in Kobane documented a spool of detonating cord produced by Rajasthan Explosives and Chemicals in India. In the absence of serial, batch, and lot numbers, and of a manufacturing date, CAR is unable to

According to documents provided by Lebanon to CAR on 15 January 2016, the Lebanese government awarded Maybel a licence to import the spools of detonating cord as well as detonators on 13 May 2014. These spools were part of a batch of 6 million metres of cord whose import the Lebanese Ministry of Economy and Trade had authorised on 3 February 2015. CAR has noticed some discrepancies in the dates and numbers mentioned in the documents provided by the Lebanese authorities but has received no further clarification from the Lebanese authorities or the company itself.¹⁵⁴

for acting as a front company for the acquisition of sensitive equipment by the Syrian government's Scientific Studies and Research Center. However, in the absence of serial, batch, and lot numbers, and of dates of manufacture, CAR is unable to assess whether the detonating cord documented in Kobane originated in Syrian government stockpiles.

further document the chain of custody of this item. Rajasthan Explosives and Chemicals has not responded to a request for information.

Figure 180

A spool of detonating cord produced in India

Documented by a CAR field investigation team in Kobane, Syria, February 2015



Figure 181

A spool of detonating cord produced in India

Documented by a CAR field investigation team in Kobane, Syria, February 2015



Figure 182**Detonating cord produced in India**

Documented by a CAR field investigation team in Kobane, Syria, February 2015

**Case 4**

The CAR team in Kobane also documented a spool of safety fuse produced by the Indian company Chamundi Explosives. In the absence of serial, batch, and lot numbers, and of a manufacturing

date, CAR is unable to establish the item's full chain of custody. Chamundi Explosives stated that the company did not supply any product to either Iraq or Syria.¹⁵⁶

Figure 183**A spool of safety fuse produced in India**

Documented by a CAR field investigation team in Kobane, Syria, February 2015



Case 5

On 21 February 2016 at the site of an IS weapon production facility in Ramadi, CAR documented an empty spool of detonating cord manufactured on an unknown date by Vetrivel Explosives in India. The company has yet to reply to a request for information sent by CAR on 24 June 2016.

Figure 184

A spool of detonating cord from the Indian company Vetrivel Explosives

Documented by a CAR field investigation team in Ramadi, Iraq, February 2016



Case 6

On 4 July 2017, CAR documented a spool of safety fuse produced by Crescent Fuses in India. Iraqi forces recovered the item from an IS weapon production facility in western Mosul on 14 June 2017. CAR has yet to receive a reply to an information request sent to the company address found on the spool.

Figure 185

A spool of safety fuse produced by Crescent Fuses in India

Documented by a CAR field investigation team in Baghdad, Iraq, July 2017



Summary

The findings presented above are illustrative of the widespread availability of detonating cord and safety fuse in the region. Many of these items appear to be accessible as a result of the loss of materiel from both the military and commercial markets. IS forces apparently tapped into these supplies with relative ease.



PROCUREMENT OF DETONATORS

CAR field investigation teams operating in Iraq documented significant quantities of electric and non-electric detonators, following recovery from IS forces. The cases illustrate the range of differing sources of explosive stores available to terrorist and insurgent forces in regions that have suffered multiple, protracted conflicts. Some of these electric detonators were originally supplied to support international mine clearance operations. This underscores the fact that leakage from weapon and explosive stores is

not confined to government arsenals alone and that non-governmental organisations may also inadvertently fuel the availability of supplies on illicit markets.

During the siege of Kobane, YPG forces captured non-electric detonators from IS forces, which were using them in the manufacture of fuzes for their munitions. A CAR field investigation team documented a number of these in Kobane on 24 February 2015.

Case 1

In February 2015 in Kobane, CAR documented non-electric detonator manufactured by the Indian company Economic Explosives, a subsidiary of the Solar Group, on 25 December 2012. The company exported the detonators (on an unspecified date) to the Lebanese company Maybel, in Beirut. According to documents provided by Lebanon to

CAR on 15 January 2016, Maybel received a licence to import the detonators as well as detonating cord (see above) on 13 May 2014. These detonators were part of a batch of three million detonators for which an import authorisation from the Lebanese Ministry of Economy and Trade was received on 3 February 2015.¹⁵⁷

Case 2

YPG forces captured electric detonators produced by Economic Explosives, but in the absence of serial, batch, lot numbers, and a date of

manufacture, CAR is unable to trace these items' chain of custody. Economic Explosives has not replied to a request for information.

Figure 186

A box of non-electric detonators produced in India in 2012 and exported to Lebanon

Documented by a CAR field investigation team in Kobane, Syria, February 2015



Figure 187

Electric detonators produced in India

Documented by a CAR field investigation team in Kobane, Syria, February 2015



Case 3

In Kobane, CAR investigators observed electric and non-electric detonators produced by Rajasthan Explosives and Chemicals; non-electric detonators produced by Premier Explosives; and electric detonators produced by IDEAL Industrial Explosives. Rajasthan Explosives and Chemicals and IDEAL Industrial Explosives have yet to reply to CAR's requests for information. Premier Explosives responded promptly to CAR's request for information, stating that it had sold two million non-electric detonators of the type documented in Kobane to the Syrian Ministry of Defence in 2006.¹⁵⁸

Between October 2014 and April 2015, CAR field investigation teams in northern Iraq also documented electric detonators manufactured by Rajasthan Explosives and Chemicals; electric and non-electric detonators manufactured by Economic Explosives; and electric detonators manufactured by IDEAL Industrial Explosives. Due to the absence of shipping information, CAR is currently unable to further identify the chain of custody of these items.

Figure 188

Non-electric detonators produced in India

Documented by a CAR field investigation team in Kobane, Syria, February 2015



Figure 189

An electric detonator produced in India

Documented by a CAR field investigation team in Kobane, Syria, February 2015



Figure 190

Non-electric detonators produced in India

Documented by a CAR field investigation team in Kobane, Syria, February 2015



Figure 191

An electric detonator produced in India

Documented by a CAR field investigation team in Kobane, Syria, February 2015





Kobane, Syria, February 2015

Figure 192

An electric detonator produced in India

Documented by a CAR field investigation team in Kobane, Syria, February 2015

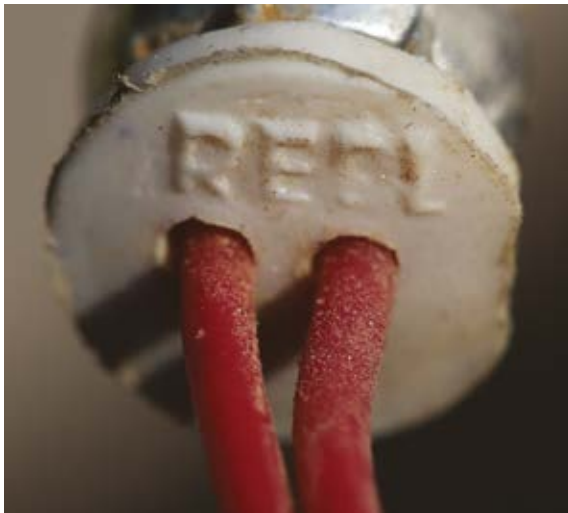


Figure 193

An electric detonator produced in India

Documented by a CAR field investigation team in Kobane, Syria, February 2015

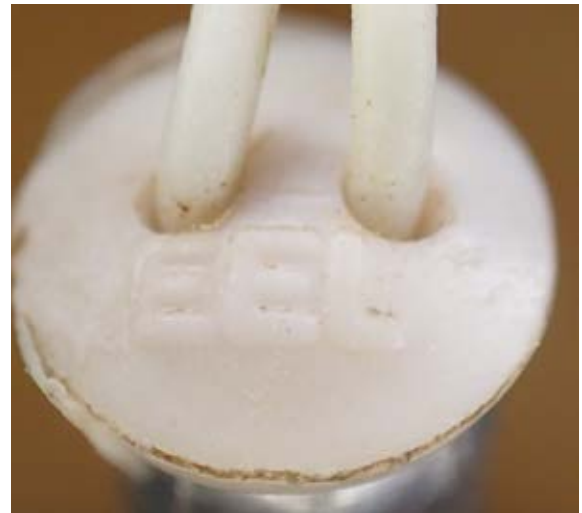


Figure 194

A non-electric detonator produced in India

Documented by a CAR field investigation team in Kobane, Syria, February 2015



Figure 195

An electric detonator produced in India

Documented by a CAR field investigation team in Kobane, Syria, February 2015



Case 4

In November and December 2014 in the vicinity of Makhmour, as well as in early 2015 near Kirkuk, Peshmerga forces recovered electric detonators from IS forces. These devices had been produced

by the Austrian company Schaffler. The absence of shipping information prevents CAR from further understanding the chain of custody of the items.

Figure 196

An electric detonator produced in Austria

Documented by a CAR field investigation team near Makhmour, Iraq, December 2014

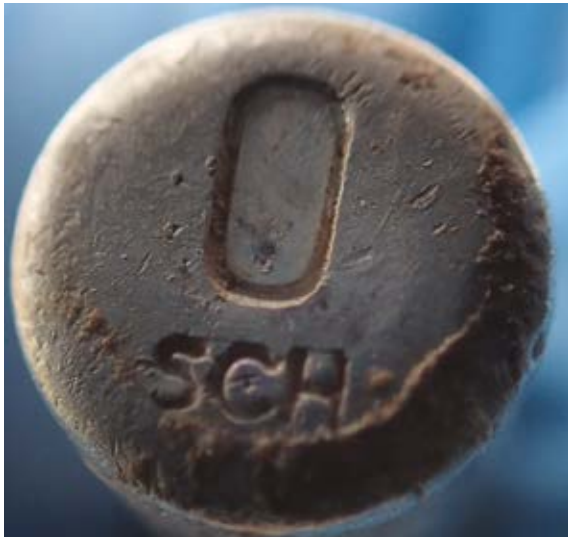


Figure 197

An electric detonator produced in Austria

Documented by a CAR field investigation team in Kirkuk, Iraq, April 2015



Case 5

In February 2015 in Kobane, Syria, and in April 2015 in Kirkuk, Iraq, CAR field investigation teams documented zero-delay electric detonators that were captured from IS forces. According to the Czech authorities, Zbrojovka Vsetín–INDET

produced the items before 1998, or its predecessor, Zbrojovka Vsetín or ZVS–Zbrojovka Vsetín, did so before 1992. Without packaging or shipping documents, CAR is not able at this stage to reconstruct the chains of custody of these items.¹⁵⁹

Figure 198**An electric detonator produced in the Czech Republic**

Documented by a CAR field investigation team in Kobane, Syria, February 2015

**Figure 199****An electric detonator produced in the Czech Republic**

Documented by a CAR field investigation team in Kirkuk, Iraq, April 2015

**Case 6**

On 22 May 2017 in an IS weapon production and storage facility in western Mosul, CAR documented 200 electric detonators manufactured by Dyno Nobel Sweden in July 2001. CAR determined that the detonators were sold in July 2003 to the Iraq mine action team of DanChurchAid (DCA). In reply to a request for information sent by CAR on 27 July 2017, DCA stated on 23 August that procedures for storing and archiving information requires DCA to store documentation for ten years and therefore DCA does not have records dating back to when it was operational in Iraq. However, DCA was able to confirm that:

- The detonators purchased by DCA for operations in Iraq were stored in the camp of the Danish battalion in Iraq.

- DCA transferred its detonators to the Danish Demining Group (DDG) upon closing its office in the beginning of 2004.
- When the donation from DCA to DDG took place, the detonators remained at the Danish camp.
- In April 2004, the Danish armed forces requested that DDG remove the donation. A DDG employee carried out a control count and noted that 8 km of detonating cord was missing. Apparently the cord had not been transferred because the Danish armed forces had destroyed it by mistake.
- That same month, DDG moved the detonators to US Camp Zubair, where the UN Mine Action Service had access to bunker storage facilities, which were not administered by DCA or DDG.¹⁶⁰

CAR is currently investigating this case further.

Figure 200

Dyno Nobel Sweden electric detonators, recovered in an IS weapon production facility

Documented by a CAR field investigation team in western Mosul, Iraq, May 2017



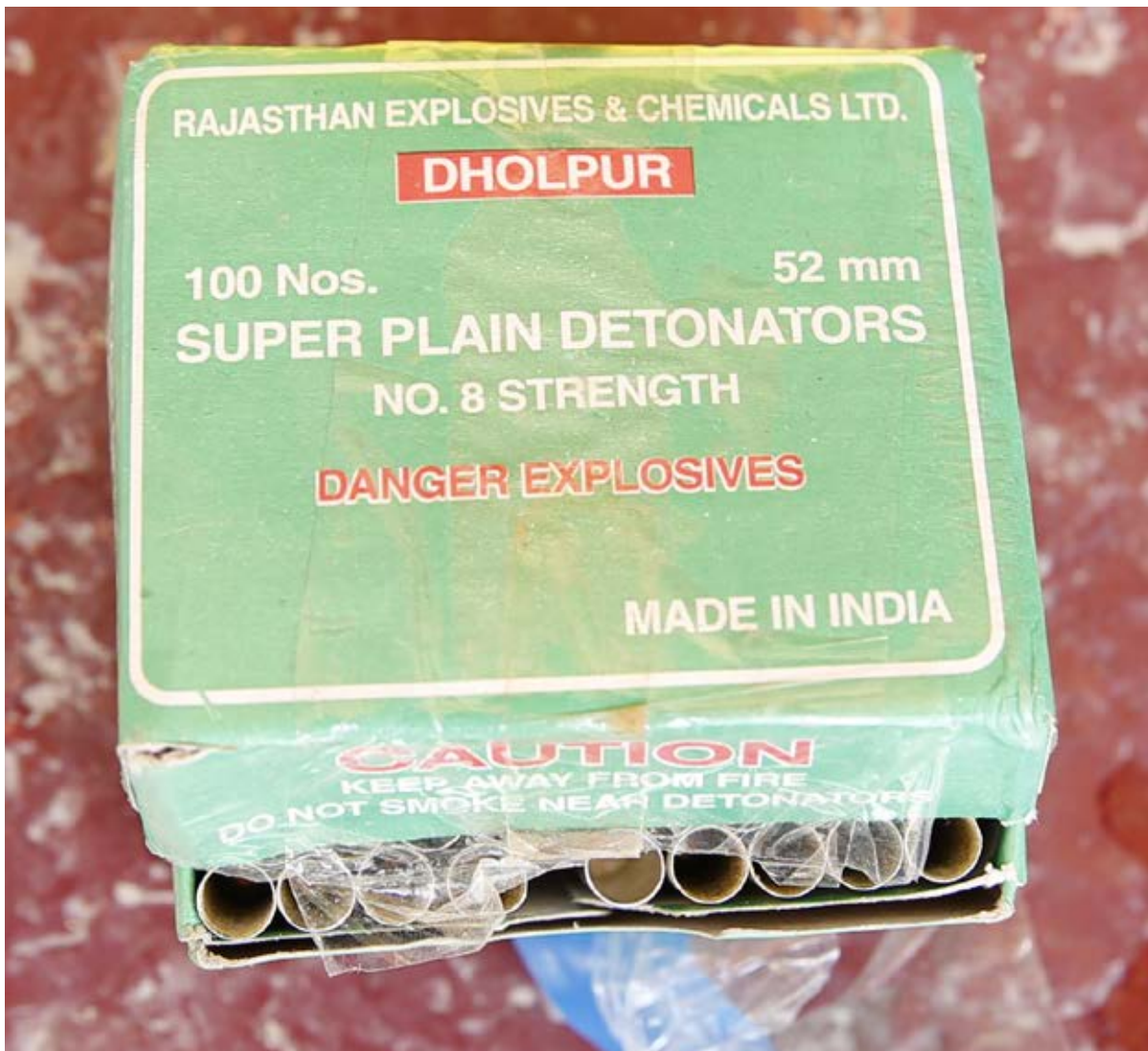
Case 7

On 4 July 2017, CAR documented a box of non-electric detonators produced by Rajasthan Explosives and Chemicals in India. Iraqi forces recovered the item from an IS weapon production facility in western Mosul on 14 June 2017. In the absence of serial, batch, lot numbers, and dates

of manufacture, CAR is unable to identify the full chain of custody of this item. CAR previously documented such detonators in February 2015, following their recovery from IS forces during the siege of Kobane. CAR could not trace them due to a lack of relevant markings.¹⁶¹

Figure 201**A box of non-electric detonators produced by Rajasthan Explosives and Chemicals in India**

Documented by a CAR field investigation team in Baghdad, Iraq, July 2017

**Summary**

Large quantities of detonators are in circulation in the Syrian conflict, largely because of losses by the Syrian regime and the existence of commercial mining and oil extraction sectors in the region. Additional losses by humanitarian demining

operations have also contributed to the supply, reinforcing the need for all actors, whether national or non-governmental, to enhance the stockpile management and security of explosive stores.

PROCUREMENT OF WIRES AND CABLES

CAR documented wires and cables used by IS forces in the manufacture and deployment of IEDs in Tuz Khurmatu in January 2015, and in Tikrit in April 2015. Four Turkish companies manufactured the wires and cables that were recovered: Ünal Kablo, Hes Kablo, Erikoğlu, and Kablo Türk.

- Ünal Kablo has stated that it exports telecommunications cable to Iraq and Syria. CAR is currently unable to identify the documented cable's full chain of custody from Istanbul to Tuz Khurmatu.
- A Hes Kablo representative confirmed that the company exported around USD 70 million worth of wire to Iraq between 2012 and 2015. Given the

volume of exports, it is not possible to identify individual consignments or the chain of custody of the spool CAR documented. Hes Kablo manufactured the item on 18 December 2013.

- The spool of copper wire produced by Erikoğlu was manufactured on 8 March 2014. A company representative confirmed that Erikoğlu exported its products to Syria, but not to Iraq. CAR is unable to establish this spool's chain of custody from Denizli, Turkey, to Tikrit.
- Kablo Türk has not responded to a request for information, and CAR is therefore unable to provide further information on the cable's chain of custody from Istanbul to Tikrit.¹⁶²

Figure 202

A spool of copper wire produced in Turkey in 2013

Documented by a CAR field investigation team in Tikrit, Iraq, April 2015



Figure 203

A spool of copper wire produced in Turkey in 2014

Documented by a CAR field investigation team in Tikrit, Iraq, April 2015



Figure 204**A spool of copper wire produced in Turkey in 2014**

Documented by a CAR field investigation team in Tikrit, Iraq, April 2015



On 21 February 2016, CAR documented various cables that were recovered from an IS weapon production facility in Ramadi. The cables, manufactured in 2015 and used to link different

Figure 205**A telecommunications cable produced in Turkey in 2013**

Documented by a CAR field investigation team in Sulaymaniyah, Iraq, April 2015



components of IED electrical circuits, bore the marks of the Turkish company Çarkit Kablo. The company has not responded to a CAR trace request that was sent on 19 April 2016.

Figure 206**A cable recovered from an IS weapon production facility**

Documented by a CAR field investigation team in Ramadi, Iraq, February 2016



PROCUREMENT OF ELECTRONIC COMPONENTS

On 15 May 2017, CAR documented several Texas Instruments microprocessors and their original packaging. Iraqi forces had recovered these items from an IS weapon production facility in eastern

Mosul in March 2017. Marks on the semiconductors and their packaging indicate production in Malaysia, possibly in 2014. Texas Instruments has yet to reply to a CAR trace request.

Figure 207

A Texas Instruments microprocessor recovered from an IS weapon production facility

Documented by a CAR field investigation team in eastern Mosul, Iraq, May 2017



BOX 12: COUNTERFEIT SEMICONDUCTORS AND OTHER ITEMS

Since 2014, CAR has documented dozens of custom switching circuits used by IS forces in radio-controlled IEDs or unmanned aerial vehicles in Iraq. The construction of these circuits follows a pattern with little variation across years and locations. The IED circuits almost always comprise the same combination of semiconductor subcomponents, which bear the markings of the same production companies. However, CAR determined that many of the microprocessors and almost all the transistors documented in these IS custom switching circuits were counterfeit.

Transistors that bear the marks of the Geneva-based company STMicroelectronics were found to be counterfeit.¹⁶³ CAR also found that many microcontrollers were

scrubbed of their original markings and fraudulently labelled Shindengen. Tokyo-based Shindengen Electric Manufacturing informed CAR on 26 February 2016 that the microcontrollers documented and identified as Shindengen were in fact counterfeit products. Following further scrutiny, CAR concluded that the items were Microchip microcontrollers, which CAR has previously documented in use in Islamic State IEDs.¹⁶⁴

CAR also found other counterfeit products used by IS forces. In February 2016, for instance, CAR documented what appeared to be a Nokia phone in an IS weapon factory in Ramadi. Microsoft Corporation indicated that, although the telephone bears a Nokia 1100 label, its code and IMEI did not align with those used with this particular model.¹⁶⁵

PROCUREMENT OF MOBILE TELEPHONES

In late 2014, Peshmerga forces seized several mobile telephones from IS forces. The telephones were used in the deployment of IEDs. CAR traced the items to Al Areen Computers (Dubai), Al Watani Telecom (Erbil), Hawk Freight Services (Dubai), and Onesto (Dubai). Al Areen Computers, Al Watani Telecom, and Onesto did not respond to CAR's

requests for information about the purchasers of these telephones.¹⁶⁶ Hawk Freight Services, however, confirmed that one of the phones was part of a batch delivered to AZ Logistic (Dubai). AZ Logistic did not reply to a subsequent CAR trace request.¹⁶⁷

Figure 208

Nokia 105 RM-908 mobile telephones

Documented by a CAR field investigation team near Erbil, Iraq, December 2014



In December 2014, a Balad local police explosive ordnance disposal team recovered a Nokia phone from IS forces in Ishaki, Iraq. The telephone was used as part of an IED. CAR documented the item in Balad, in February 2016. Microsoft Corporation (which owned part of Nokia's phone production at the time of request) confirmed that the telephone, a Nokia 100 RH-130, was part of a batch of phones that Nokia sold to Derinton International FZE, based in the United Arab Emirates, and that

was delivered on 3 July 2013 to the company Fastlink, based in Erbil.¹⁶⁸ In December 2014, CAR documented another phone, a Nokia 105 RM-908, recovered earlier that month by Peshmerga forces from IS forces near Makhmour. This telephone was also delivered to Fastlink in Erbil.¹⁶⁹ CAR has yet to receive a written reply to information requests sent to Fastlink on 7 January, 24 June, and 26 September 2016.

Figure 209 and 210

A Nokia 100 RH-130 mobile telephone

Documented by a CAR field investigation team in Balad, Iraq, February 2016



SECTION 3

CONCLUSION
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ACKNOWLEDGMENTS

CONCLUSION

IS forces, like most non-state armed groups, acquire significant quantities of weapons and ammunition on the battlefield. This materiel has numerous sources—ranging from weapons captured in bulk from Iraqi defence and security forces during initial advances by IS forces in 2014, to military materiel seized during offensives against Syrian government forces.

If these acquisitions were restricted to old, ‘legacy’ weapons, which happened to be present in the arsenals of the two governments, there would arguably be few viable avenues available to restrict weapon acquisition by IS forces. Evidence presented in this report, however, confirms that many of the group’s weapons—and notably its ammunition—are newly manufactured, having been delivered to the region since the start of the Syrian conflict in 2011. These weapons originate in transfers made by external parties, including Saudi Arabia and the United States, to disparate Syrian opposition forces arrayed against the regime of President Bashar al-Assad. Supplied into Syria through the territories of regional proxies—notably Jordan and Turkey—this materiel was rapidly captured by IS forces, only to be deployed by the group against international coalition forces.

These dynamics are not new among the adverse effects associated with international intervention in civil wars. Support by Saudi Arabia and the United States to non-state forces in the 1980s Afghan conflict displayed similar patterns:

MANY OF THE GROUP’S WEAPONS—AND NOTABLY AMMUNITION—ARE NEWLY MANUFACTURED, HAVING BEEN DELIVERED TO THE REGION SINCE THE START OF THE SYRIAN CONFLICT IN 2011.

weapons provided to non-state groups arrayed against a common enemy; a concentration of Salafist jihadist groups, which proved the most organised and the most effective at acquiring foreign-supplied weapons; a devolution to neighbouring states of the responsibility for deciding which groups received weapons (in the Afghanistan case, Pakistan, and in the Syria case, Jordan and Turkey); and a blowback effect, whereby weapon supplier states end up being targeted by the forces that they armed indirectly—and having to confront them militarily.¹⁷⁰

Moreover, many of these transfers have violated the terms of sale and export agreed between weapon exporters—primarily EU Member States—and recipients in Saudi Arabia and the United States. These are clear cases of diversion, whereby government recipients have broken end-user agreements in which they undertook not to re-export weapons or ammunition without the





Baghdad, Iraq, May 2017

prior consent of exporting governments. These non-retransfer clauses are explicitly designed to mitigate the risk of diversion and the subsequent use of weapons by insurgent and terrorist forces to the detriment of international peace and security. Their violation runs counter to a range of international and regional counter-diversion agreements, including specific aspects of the Arms Trade Treaty and the EU Common Position on Arms Exports.

Such counter-diversion initiatives can only be effective if they are informed by systematic end-use monitoring, particularly with respect to unauthorised weapon re-exports or retransfers. In those cases, exporting states must be made aware of end-user agreement violations if they are to make a full assessment of the risks of diversion when deciding whether to continue exporting weapons to a party. Many—if not most—of the negative outcomes associated with the international trade in arms result from a long-held ‘fire and forget’ attitude, whereby exporting governments remain either unaware or unconcerned with what happens to weapons after export. The evidence presented in this report and initiatives such as CAR’s EU-funded iTrace® Global Weapon Reporting System provide a strong indication of the efficacy of enhanced end-use monitoring in redressing the persistent issue of diversion.

The evidence presented in this report also speaks to ongoing problems involving non-state forces’ acquisition and weaponisation of civilian market products, particularly with respect to the construction of IEDs by terrorist groups. Indeed, IS forces have established an acquisition network that extends deep into neighbouring countries, as well as a sophisticated IED research, development, and construction programme that allows for the production of IEDs on an unprecedented scale. In the course of CAR’s investigation, Turkey

MANY WEAPONS TRANSFERS HAVE VIOLATED THE TERMS OF SALE AND EXPORT AGREED BETWEEN WEAPON EXPORTERS—PRIMARILY EU MEMBER STATES—AND RECIPIENTS IN SAUDI ARABIA AND THE UNITED STATES.

emerged as the paramount source of chemical explosive precursors and a range of ancillary commercial material, which IS forces have used to manufacture IEDs and improvised weapons in a host of connected, centrally managed factories and workshops. As the group loses its territorial foothold in Iraq and Syria and moves from conventional war fighting towards a greater reliance on acts of terrorism and insurgency, these factors—unless addressed—will continue to provide the group with the resources to pursue its agenda well into the future.

IS forces continue to pose a grave threat to regional and international security. Evidence presented in this report demonstrates that IS forces possess advanced weapon systems, which will pose a threat to regional and international forces in the years to come; are proficient at manufacturing improvised weapons and IEDs on a large and sophisticated scale; and are adept at tapping into regional and international commercial markets to acquire chemical precursors and off-the-shelf products for the development of these weapons. Combined with global reach, demonstrated logistical and organisational capacity, and willing recruits around the world, these factors translate into an exportable capacity to conduct insurgency and terrorism well beyond the region.

ENDNOTES

- 1 The term 'small arms' in this report refers to assault rifles, automatic rifles, self-loading rifles, and sniper rifles, as well as light, medium, and heavy machine guns.
- 2 Warsaw Pact calibres comprise 7.62 x 39 mm, 7.62 x 54R mm, 12.7 x 108 mm, and 14.5 x 114 mm ammunition.
- 3 All numbers were calculated to two decimal points and rounded to the nearest whole number for clarity.
- 4 NATO calibres comprise 5.56 x 45 mm, 7.62 x 51 mm, 12.7 x 99 mm, and 9 x 19 mm ammunition.
- 5 Vinograd (2015).
- 6 CAR traced a sample of the materiel it had identified as being of Romanian origin. By 16 November 2017, the Romanian export control authority confirmed CAR's identification in 12 cases but in 11 cases stated the item was either not of Romanian manufacture or the serial number could not be identified by Romanian manufacturers. CAR has contacted independent experts who have confirmed CAR's identification. CAR is continuing its investigation with the help of the Romanian export control authority.
- 7 The states are Bulgaria, the Czech Republic, Germany (all German weapons documented by CAR were manufactured in former East Germany), Hungary, Poland, and Romania.
- 8 See Endnote 6.
- 9 Some former Warsaw Pact countries are still producing Warsaw Pact-compatible ammunition.
- 10 Of the 252 items of ammunition of Slovak manufacture, 250 were produced in 1935.
- 11 The EU candidate countries are Albania, Bosnia and Herzegovina, the former Yugoslav Republic of Macedonia, Serbia, and Turkey.
- 12 CPA (2014).
- 13 These categories exclude OG-7 40 mm and OG-9 73 mm projectiles; they include primary propelling charges.
- 14 CAR (2015b).
- 15 Al Jazeera (2017).
- 16 On 28 April 2015, the Government of the Republic of Bulgaria responded promptly to a formal trace request issued by CAR on 31 March 2015. This response confirms that: 1) the Bulgarian company, VMZ AD, Sopot, manufactured the PG-7VM rounds subject to the trace request; 2) on 21 January 2010, the inter-Ministerial Commission for Export Control and Non-Proliferation of weapons of Mass Destruction of the Republic of Bulgaria issued a license for export of 20,000 PG-7VM rounds to Iraq; 3) the application for the export license was accompanied by the original end-user certificate, which was issued by the Ministry of Defense of Iraq, certified by the Ministry of Foreign Affairs of Iraq, and contained a provision prohibiting re-export without the consent of the Bulgarian authorities; 4) the

Ministry of Defense of Iraq confirmed delivery of the items concerned from port Burgas, Bulgaria, to the port of Umm Qasr, Iraq, on 7 September 2010 and 14 March 2011, onboard the ships Thor Irene and Momentum Scan, respectively.

- 17 On 19 May 2015, the Government of the Republic of Bulgaria responded promptly to a formal tracing request issued by CAR on 13 April 2015. This response confirms that: 1) Bulgarian authorities authorised the export of the PKM general-purpose machine gun to the Ministry of Defence of Iraq in 2004 via the Polish companies Bumar Sp ZOO and Centrex Sp ZOO; 2) the export license application was accompanied by the original end-user certificate, which was issued by the Ministry of Defence of Iraq, certified by the Ministry of Foreign Affairs of Iraq, and by the Embassy of Poland in Baghdad; 3) on 21 April 2005, Bright Aviation Services (Bulgaria) delivered the item from Plovdiv Airport to Baghdad Airport; and 4) a delivery verification certificate was presented upon delivery.
- 18 On 29 June 2015, the Serbian authorities responded promptly to a formal trace request issued by CAR on 28 April 2015 for 7.62 x 54R mm ammunition, manufactured under lot ППУ 0301-02. This response confirms that: 1) On 15 November 2004, the Multi-National Security Transition Command – Iraq (MNSTC-I) issued an import license for the delivery to Iraq of materiel including 5,000,000 rounds of 7.62 54R mm (ball) ammunition; 2) an end-user certificate (BFPO 684 AE 09316, dated 1 November 2004) accompanied this import license, which granted the Laudes Corporation (United States) and Tradewell AG (Switzerland) permission to procure and deliver the materiel for and on behalf of the MNSTC-I for use by Iraqi security forces; 3) On 3 December, Tradewell AG authorised TOR International (United Kingdom) to acquire and purchase the materiel and to arrange for its delivery to Baghdad International Airport, ‘directly to the Multi-National Security Transition Command – Iraq, Iraq Security Forces.’ 4) The Embassy of the United States to Serbia verified the validity of the end-user certificate and import license; and 5) On 3 December 2004, the Ministry of Defence of Serbia and Montenegro issued an export license to the manufacturer, Prvi Partizan (Užice, Serbia), for the export of 5,000,000 rounds of 7.62 x 54R to the stated end-user, of which 1,296,000 rounds were produced under lot ППУ 0301-02. On 4 August 2015, the Serbian authorities provided CAR with an addendum that stated that the materiel exported to Iraq after the military intervention in 2003 was part of the efforts of the international community to equip and strengthen the capacity of the central government of Iraq to deal with security challenges on its entire territory.
- 19 CAR (2015b, p. 19).
- 20 GAO (2007, p. 1).
- 21 Loren Data’s FBO Daily (2007).
- 22 For Iraq, requirement item ‘B’ included, among other things, 36.8 million rounds of 7.62 x 39 mm ammunition and 12 million rounds of 7.62 x 54R mm ammunition.
- 23 GAO (2007, p. 2).
- 24 GAO (2007, p. 1).
- 25 A weapon transfer is illicit if materiel that is intended for a specific end user is instead diverted to a third party.
- 26 See Blanchard and Belasco (2015) and Welch and Bailey (2016).
- 27 Criterion Seven states that EU Member States shall assess ‘the risk of such technology or equipment being re-exported to undesirable destinations, *and the record of the recipient country in respecting any re-export provision or consent prior to re-export* which the exporting Member State considers appropriate to impose’ (Council of the EU, 2008, art. 2, Criterion 7d, emphasis added).

- 28 On 8 June 2016, the Government of the Republic of Bulgaria responded promptly to a formal trace request issued by CAR on 5 May 2016. This response confirms that: 1) the Bulgarian company VMZ JSCo manufactured the 9M111MB-1 anti-tank guided missile with consignment number 1-15-((11)), subject to CAR's request; 2) VMZ JSCo exported the item to the US Department of Army through the broker Kiesler Police Supply Inc., USA; 3) the application for the licence was accompanied by the original end-user certificate, issued by the United States Department of the Army; 4) VMZ JSCo exported the item on 12 December 2015 and the recipient subsequently provided the Bulgarian authorities with a delivery verification certificate.
- 29 Jaysh al-Nasr (n.d.).
- 30 CAR contacted Jaysh al-Nasr on 20 September 2017 to request more information. The group has yet to reply.
- 31 On 26 April 2017, the Government of the Republic of Bulgaria responded promptly to a formal trace request issued by CAR on 14 February 2017. This response confirms that: 1) VMZ JSCo manufactured the 9M111MB-1 anti-tank guided missiles with lot number 1-10-((11)), subject to CAR's trace request; 2) VMZ JSCo sold the missiles to Bulgarian companies licenced to trade in military goods and; 3) Bulgarian authorities issued an export licence in 2014 for export to the United States Department of the Army.
- 32 On 8 June 2016, the Government of the Republic of Bulgaria responded promptly to a formal trace request issued by CAR on 5 May 2016. This response confirms that: 1) the Bulgarian company VMZ JSCo, Sopot, manufactured the PG-7VT 40 mm rocket with lot number 2-14-((11)); 2) VMZ exported the rockets to the United States Department of the Army through the broker Kiesler Police Supply Inc., USA; 3) the original end-user certificate (EUC), issued by the United States Department of the Army, accompanied the export licence application; 4) VMZ exported the items to the United States Department of the Army on 23 June 2014 and the United States authorities subsequently provided the Bulgarian authorities with a delivery verification certificate.
- 33 On 8 June 2016, the Government of the Republic of Bulgaria responded promptly to a formal trace request issued by CAR on 5 May 2016. This response confirms that: 1) the Bulgarian company VMZ JSCo manufactured the 40 mm PG-7VT round with consignment number 2-14-((11)), subject to CAR's request; 2) VMZ exported the round to the United States Department of the Army through the broker Kiesler Police Supply Inc., USA; 3) the original end-user certificate (EUC), issued by the United States Department of the Army, accompanied the export licence application; 4) VMZ exported the items to the United States Department of the Army on 23 June 2014 and the United States authorities subsequently provided the Bulgarian authorities with a delivery verification certificate.
- 34 Specifically, the item was exported to the Office of the Assistant Secretary of the Army, Acquisition Logistics and Technology, Washington, DC.
- 35 On 27 January 2016, the Government of Romania responded promptly to a formal trace request issued by CAR on 8 January 2016. This response confirms that: 1) the Romanian company Fabrica de Arme Cugir manufactured the PKM machine gun with serial number F-5253-2012, subject to CAR's request; 2) the item was part of an authorised export to the Government of the United States of America (Office of the Assistant Secretary of the Army, Acquisition Logistics and Technology, Washington D.C.), brokered by an American company; 3) the Romanian Department for Export Controls received an end-user certificate issued by the United States Army on 10 August 2012, in support of the export licence application; 4) the export licence was issued on 22 November 2012 for the export of 250 PKM machine guns, along with other undisclosed items; 5) the export was realized on 6 December 2012 via air transportation. The Government of Romania included a copy of the end-user agreement in its response to CAR.
- 36 SIGIR (2006, app. D). Note that the company's name is erroneously spelled 'Keisler' in the document.

- 37 On 23 February 2017, the Government of Romania responded to a formal trace request issued by CAR on 26 January 2017. This response confirms that: 1) UM Mija manufactured the six PG-9V 73 mm rockets with lot number 21-13-459; 2) Romanian authorities authorised the export of these items, under an export licence dated 1 November 2013, for sole use by the Government of the United States of America/ Department of the Army, the declared end-user; 3) the end-user certificate (EUC) was signed and dated on 16 October 2013; 4) this consignment was delivered on 13 and 15 December 2013; and 5) the Department of the Army issued a delivery verification certificate (DVC) confirming receipt of the export to the Romanian authorities dated 28 May 2014. The Government of Romania included copies of the EUC and DVC in its response to CAR.
- 38 On 23 February 2017, the Government of Romania responded to a formal trace request issued by CAR on 26 January 2017. This response confirms that: 1) UM Mija manufactured the two PG-9V 73 mm rockets with lot number 22-13-459; 2) Romanian authorities authorised the export of these items, under an export licence dated 1 November 2013, for sole use by the Government of the United States of America/ Department of the Army, the declared end-user; 3) the end-user certificate (EUC) was signed and dated on 16 October 2013; 4) this consignment was delivered on 25 and 27 March 2014; and 5) the Department of the Army issued a delivery verification certificate (DVC) confirming receipt of the export to the Romanian authorities dated 28 May 2014. The Government of Romania included copies of the EUC and DVC in its response to CAR.
- 39 On 23 February 2017, the Government of Romania responded to a formal trace request issued by CAR on 26 January 2017. This response confirms that: 1) UM Mija manufactured the PG-9V 73 mm rocket with lot number 11-14-451; 2) Romanian authorities authorised the export of this item, under an export licence dated 30 May 2014, for sole use by the Government of the United States of America/Department of the Army, the declared end-user; 3) the end-user certificate (EUC) was signed and dated on 20 May 2014; 4) this consignment was delivered on 5 and 17 June 2014; and 5) the Department of the Army issued a delivery verification certificate (DVC) confirming receipt of the export to the Romanian authorities dated 4 September 2014. The Government of Romania included copies of the EUC and DVC in its response to CAR.
- 40 On 23 February 2017, the Government of Romania responded to a formal trace request issued by CAR on 26 January 2017. This response confirms that: 1) UM Mija manufactured the PG-9V 73 mm rocket with lot number 12-14-451; 2) Romanian authorities authorised the export of this item, under an export licence dated 23 October 2014, for sole use by the Government of the United States of America/ Department of the Army, the declared end-user; 3) the end-user certificate (EUC) was signed and dated on 30 September 2014; 4) this consignment was delivered on 4 December 2014; and 5) the Department of the Army issued a delivery verification certificate (DVC) confirming receipt of the export to the Romanian authorities dated 27 January 2015. The Government of Romania included copies of the EUC and DVC in its response to CAR.
- 41 The three rocket quantities are specified in a declaration of end use submitted by the Government of Romania on 23 February 2017 in response to CAR's trace request.
- 42 The province is controlled by IS forces and spans across the Iraq–Syria border along the Euphrates; it includes Al Qa'im in Iraq and Al Bukamal in Syria.
- 43 IS (2016). Warning: Graphic content. Viewer discretion is advised.
- 44 On 10 November 2017, the Government of Romania responded to a formal trace request issued by CAR on 13 October 2017. This response confirms that: 1) UM Mija manufactured the PG-7PM primary propelling charge with lot number 22-14- 451, subject to CAR's trace request, in 2014 and used it for assembling PG-7VM rockets with lot number 12-14- 451; 2) the Romanian export control authority issued an export licence based on an end-user certificate (EUC) dated 30 September 2014, for export to the Department of the Army, United States of America, the declared end-user; 3) a Romanian company delivered the consignment of 11,634 PG-7VM rockets (which the item subject to CAR's trace request was

one) to the end-user on 4 December 2014; and 4) the Department of the Army provided the Romanian export control authority with a delivery verification certificate (DVC) dated 27 January 2015, which confirmed receipt of the goods. The Romanian export control authority included copies of the EUC and DVC in its response to CAR.”

- 45 On 10 November 2017, the Government of Romania responded to a formal trace request issued by CAR on 13 October 2017. This response confirms that: 1) UM Mija manufactured the PG-7VM 40 mm rocket with lot number 16-15- 452, subject to CAR’s trace request, in 2015; 2) the Romanian export control authority issued an export licence based on an end-user certificate (EUC) dated 23 January 2015, for export to the Department of the Army, the declared end-user; 3) a Romanian company delivered the consignment of 7,380 PG-7VM rockets (of which the item subject to CAR’s trace request was one) to the declared end-user on 27 November 2015; and 4) the Department of the Army provided the Romanian export control authority with a delivery verification certificate (DVC) dated 14 March 2016, which confirmed receipt of the goods. The Romanian export control authority included copies of the EUC and DVC in its response to CAR.
- 46 Recoilless launcher systems manufactured by IS forces will be covered in CAR (forthcoming).
- 47 On 10 November 2017, the Government of Romania responded to a formal trace request issued by CAR on 13 October 2017. This response confirms that: 1) UM Mija manufactured the PG-9V 73 mm rocket with lot number 21-16- 453, subject to CAR’s trace request, in 2016; 2) the Romanian export control authority issued an export licence based on an end-user certificate (EUC) dated 23 January 2015, for export to the Department of the Army, the declared end-user; 3) a Romanian company delivered the consignment of 7,356 PG-9V rockets (which the item subject to CAR’s trace request was one) to the declared end-user on 10 March 2016; and 4) the Department of the Army provided the Romanian export control authority with a delivery verification certificate (DVC) dated 5 May 2016, which confirmed receipt of the goods. The Romanian export control authority included copies of the EUC and DVC in its response to CAR.
- 48 On 23 February 2017, the Government of Romania responded to a formal trace request issued by CAR on 26 January 2017. This response confirms that: 1) UM Mija manufactured 29 PG-9V 73 mm rockets with lot number 11-03-458, subject to CAR’s trace request; 2) Romanian authorities authorised the export of this item, under an export licence dated 10 January 2003 and International Import Certificate (IIC) dated 17 December 2002; 3) a Romanian company delivered this consignment on 23 April 2003 by ship to the importer United International Supplies Inc./United States of America; and 4) the US Department of Commerce issued a delivery verification certificate (DVC) to the Romanian authorities dated 27 May 2003 (with the US Customs stamp dated 18 December 2003). The Government of Romania included copies of the IIC and DVC in its response to CAR.

On 23 February 2017, the Government of Romania responded to a formal trace request issued by CAR on 26 January 2017. This response confirms that: 1) UM Mija manufactured 28 PG-9V 73 mm rockets with lot number 12-03-458, subject to CAR’s trace request; 2) Romanian authorities authorised the export of this item, under an export licence dated 10 January 2003 and International Import Certificate (IIC) dated 17 December 2002; 3) a Romanian company delivered this consignment on 23 April 2003 by ship to the importer United International Supplies Inc./United States of America; and 4) the US Department of Commerce issued a delivery verification certificate (DVC) to the Romanian authorities dated 27 May 2003 (with the US Customs stamp dated 18 December 2003). The Government of Romania included copies of the IIC and DVC in its response to CAR.

On 23 February 2017, the Government of Romania responded to a formal trace request issued by CAR on 26 January 2017. This response confirms that: 1) UM Mija manufactured 15 PG-9V 73 mm rockets with lot number 13-03-458, subject to CAR’s trace request; 2) Romanian authorities authorised the export of this item, under an export licence dated 10 January 2003 and International Import Certificate (IIC) dated 17 December 2002; 3) a Romanian company delivered this consignment on 23 April 2003 via ship to the importer United International Supplies Inc./United States of America; and 4) the US Department of Commerce issued a delivery verification certificate (DVC) to the Romanian authorities dated 27 May

- 2003 (with the US Customs stamp dated 18 December 2003). The Government of Romania included copies of the IIC and DVC in its response to CAR.
- 49 On 1 September 2017, the Government of Romania responded promptly to a formal trace request issued by CAR on 10 August 2017. This response confirms that: 1) UM Sadu manufactured the 7.62 x 39 mm ammunition with lot number A13-03, subject to CAR's trace request, in 2003; 2) the Romanian export control authority issued an export licence based on an International Import Certificate (IIC) dated 17 December 2002; 3) a Romanian company delivered this consignment by sea on 24 April 2003 to the importer, United International Supplies, United States of America and; 4) the United States Department of Commerce issued to the Romanian authorities a delivery verification certificate (DVC) dated 27 May 2003 (with a US customs stamp dated 18 December 2003). The Government of Romania included copies of the IIC and DVC in its response to CAR.
- 50 Based on correspondences with the Romanian government, CAR uses the term 'AKM' for the documented 7.62 x 39 mm assault rifles of Romanian manufacture, instead of 'AIM' or 'AIMS'.
- 51 On 18 May 2017, the Government of Romania responded promptly to a formal trace request issued by CAR on 20 April 2017. This response confirms that: 1) UM Mija manufactured the PG 7V 40 mm rockets with lot number 13-02-457, subject to CAR's trace request, in 2002; 2) the Romanian export control authority issued an export licence based on the International Import Certificate (IIC) dated 20 September 2002; 3) a Romanian company delivered the consignment on 16 January 2003 to the importer United International Supplies Inc., United States of America; and 4) the US Department of Commerce issued a delivery verification certificate (DVC) to the Romanian authorities dated 4 February 2003 (with a US customs stamp dated 14 July 2003). The Government of Romania included copies of the IIC and DVC in its response to CAR.
- 52 On 23 February 2017, the Government of Romania responded to a formal trace request issued by CAR on 26 January 2017. This response confirms that: 1) Fabrica de Arme Cugir manufactured the 7.62 x 39 mm assault rifle with serial number UI-7972-2002; 2) Romanian authorities authorised the export of this item, under an export licence dated 1 November 2002 and International Import Certificate (IIC) dated 20 September 2002; 3) a Romanian company delivered this consignment on 16 November 2002 via ship to the importer United International Supplies Inc./United States of America; and 4) the US Department of Commerce issued a delivery verification certificate (DVC) to the Romanian authorities dated 30 November 2002. The Government of Romania included copies of the ICC and DVC in its response to CAR.
- 53 On 20 June 2017, the Government of Romania responded promptly to a formal trace request issued by CAR on 23 May 2017. This response confirms that: 1) UM Mija manufactured the PG 7V 40 mm rocket with lot number 12-02-457, subject to CAR's trace request; 2) the Romanian export control authority issued an export licence based on the International Import Certificate (IIC) dated 20 September 2002; 3) a Romanian company delivered this consignment on 20 November 2002 to the importer United International Supplies Inc., United States of America; and 4) the US Department of Commerce issued a delivery verification certificate (DVC) to the Romanian authorities dated 30 November 2002 (with a US customs stamp dated 3 February 2003). The Government of Romania included copies of the IIC and DVC in its response to CAR.

On 28 July 2017, the Government of Romania responded promptly to a formal trace request issued by CAR on 30 June 2017. This response confirms that: 1) UM Mija manufactured the PG-7P primary propelling charge with lot number 12-02-457, subject to CAR's trace request, in 2002 and used it for assembling PG 7V 40 mm anti-tank grenades with the same lot number; 2) the Romanian export control authority issued an export licence based on an international import certificate (IIC) dated 20 September 2002, for export to the importer, United International Supplies Inc., United States of America; 3) a Romanian company delivered the consignment to the importer on 20 November 2002; and 4) the United States Department of Commerce issued to the Romanian authorities a delivery

verification certificate (DVC) dated 30 November 2002 (with a US customs stamp dated 3 February 2003). The Romanian export control authority included copies of the IIC and DVC in its response to CAR.

- 54 IICs and EUCs are equivalent documents used as end-user and end-use assurances in the export authorisation process. They both comprise essential elements, such as the registration number and date; details of the end user; a description of the goods (such as type and quantity); a stamp and signature of an authorised official; and certification of the authority of the end user's country. The only difference between the documents is that IICs do not contain the reexport clauses contained in EUCs. If an IIC is used for an export, the decision to reexport the imported goods is taken by the importer's authority.
- 55 The quantities are specified in materiel data sheets submitted by the Government of Romania on 17 May and 20 June 2017 in response to a CAR trace request.
- 56 OpenCorporates (n.d.).
- 57 Silverstein (2000, pp. 136–37).
- 58 On 9 February 2017, the Government of Romania responded to a formal trace request issued by CAR on 12 January 2017. This response confirms that: 1) UM Cugir manufactured the 12.7 x 108 mm ammunition with the lot number 204/14, subject to CAR's trace request; 2) Romanian authorities authorised the export of this ammunition, under an export licence dated 23 October 2014, for sole use by the Government of the United States of America/ Department of the Army, the declared end-user; 3) the end-user certificate (EUC) was signed and dated on 30 September 2014; 4) this consignment was delivered on 24 November 2014; and 5) the Department of the Army issued a delivery verification certificate (DVC) confirming receipt of the export to the Romanian authorities dated 27 January 2015. The Government of Romania included copies of the EUC and DVC in its response to CAR.
- 59 On 26 April 2017, the Government of the Republic of Bulgaria responded promptly to a formal trace request issued by CAR on 14 February 2017. This response confirms that: 1) VMZ JSCo manufactured the PG-7VT round with lot number 3-14-((11)), subject to CAR's trace request; 2) VMZ JSCo sold the rounds to Bulgarian companies licenced to trade in military goods and; 3) Bulgarian authorities issued an export licence in 2014 for export to the United States Department of the Army.
- 60 Gourley (2017).
- 61 Gourley (2017).
- 62 Glatz and Lumpe (2007, p. 82). Note that Kiesler is misspelled 'Keisler'.
- 63 Specifically, the regiment recovered 9 vz. 58 P (with fixed buttstock) and 16 vz. 58 V (with side-folding buttstock).
- 64 Czech authorities confirmed the sales in all trace requests except four. According to the Czech authorities, however, even in those four cases it is highly likely that the concerned assault rifles were also part of the transactions, as Banzai's records of lot, batch, and serial numbers differ only slightly from CAR's.
- 65 On 30 September 2016, the Government of the Czech Republic responded promptly to a formal trace request issued by CAR on 18 July 2016. This response confirms that: 1) the Czech company Agrozet Uherský Brod (now Česká zbrojovka a.s, Uherský Brod) manufactured the assault rifle with serial number 34968 f, subject to CAR's request, in 1962, in the former Czechoslovakia; 2) Agrozet Uherský Brod supplied the rifle to the Czechoslovak People's Armed Forces; 3) after the Velvet Revolution and the fall of the communist regime in 1989, the rifle was one of many such rifles sold as surplus military materiel to a private company Banzai spol. s.r.o.; 4) Banzai spol s.r.o. sold the aforementioned rifle to the company S.M.S. s.r.o., Dubnica nad Vahom, Slovak Republic, for export to Iraq; 5) S.M.S. s.r.o.

exported rifles (including the rifle with serial number 34968 f) to Iraq in July and August 2007 under the export licence number B071220457, which the Czech authorities issued; 6) the US company Blane International Group Inc. brokered the export, under the US Government contract number W914NS-05-D-9013-0008; and 7) the Ministry of Defence of the Republic of Iraq provided the Czech authorities with an end-user certificate.

On 30 September 2016, the Government of the Czech Republic responded promptly to a formal trace request issued by CAR on 18 July 2016. This response confirms that: 1) the Czech company Agrozet Uherský Brod (now Česká zbrojovka a.s, Uherský Brod) manufactured the assault rifle with serial number 15418 e, subject to CAR's request, in 1963, in the former Czechoslovakia; 2) Agrozet Uherský Brod supplied the rifle to the Czechoslovak People's Armed Forces; 3) after the Velvet Revolution and the fall of the communist regime in 1989, the rifle was one of many such rifles sold as surplus military materiel to a private company Banzai spol. s.r.o.; 4) Banzai spol s.r.o. sold the aforementioned rifle to the company S.M.S. s.r.o., Dubnica nad Vahom, Slovak Republic, for export to Iraq; 5) S.M.S. s.r.o. exported rifles (including the rifle with serial number 15418 e) to Iraq in July and August 2007 under the export licence number B071220457, which the Czech authorities issued; 6) the US company Blane International Group Inc. brokered the export, under the US Government contract number W914NS-05-D-9013-0008; and 7) the Ministry of Defence of the Republic of Iraq provided the Czech authorities with an end-user certificate.

On 30 September 2016, the Government of the Czech Republic responded promptly to a formal trace request issued by CAR on 18 July 2016. This response confirms that: 1) the Czech company Agrozet Uherský Brod (now Česká zbrojovka a.s, Uherský Brod) manufactured the assault rifle with serial number 65766 n, subject to CAR's request, in 1960, in the former Czechoslovakia; 2) Agrozet Uherský Brod supplied the rifle to the Czechoslovak People's Armed Forces; 3) after the Velvet Revolution and the fall of the communist regime in 1989, the rifle was one of many such rifles sold as surplus military materiel to a private company Banzai spol. s.r.o.; 4) Banzai spol s.r.o. sold the aforementioned rifle to the company S.M.S. s.r.o., Dubnica nad Vahom, Slovak Republic, for export to Iraq; 5) S.M.S. s.r.o. exported rifles (including the rifle with serial number 65766 n) to Iraq in July and August 2007 under the export licence number B071220457, which the Czech authorities issued; 6) the US company Blane International Group Inc. brokered the export, under the US Government contract number W914NS-05-D-9013-0008; and 7) the Ministry of Defence of the Republic of Iraq provided the Czech authorities with an end-user certificate.

On 30 September 2016, the Government of the Czech Republic responded promptly to a formal trace request issued by CAR on 18 July 2016. This response confirms that: 1) the Czech company Agrozet Uherský Brod (now Česká zbrojovka a.s, Uherský Brod) manufactured the assault rifle with serial number 63141 h, subject to CAR's request, in 1961, in the former Czechoslovakia; 2) Agrozet Uherský Brod supplied the rifle to the Czechoslovak People's Armed Forces; 3) after the Velvet Revolution and the fall of the communist regime in 1989, the rifle was one of many such rifles sold as surplus military materiel to a private company Banzai spol. s.r.o.; 4) Banzai spol s.r.o. sold the aforementioned rifle to the company S.M.S. s.r.o., Dubnica nad Vahom, Slovak Republic, for export to Iraq; 5) S.M.S. s.r.o. exported rifles (including the rifle with serial number 63141 h) to Iraq in July and August 2007 under the export licence number B071220457, which the Czech authorities issued; 6) the US company Blane International Group Inc. brokered the export, under the US Government contract number W914NS-05-D-9013-0008; and 7) the Ministry of Defence of the Republic of Iraq provided the Czech authorities with an end-user certificate.

On 30 September 2016, the Government of the Czech Republic responded promptly to a formal trace request issued by CAR on 18 July 2016. This response confirms that: 1) the Czech company Agrozet Uherský Brod (now Česká zbrojovka a.s, Uherský Brod) manufactured the assault rifle with serial number 70624 r, subject to CAR's request, in 1963, in the former Czechoslovakia; 2) Agrozet Uherský Brod supplied the rifle to the Czechoslovak People's Armed Forces; 3) after the Velvet Revolution and the fall of the communist regime in 1989, the rifle was one of many such rifles sold as surplus military materiel to a private company Banzai spol. s.r.o.; 4) Banzai spol s.r.o. sold the aforementioned rifle to the company S.M.S. s.r.o., Dubnica nad Vahom, Slovak Republic, for export to Iraq; 5) S.M.S. s.r.o.

exported rifles (including the rifle with serial number 70624 r) to Iraq in July and August 2007 under the export licence number B071220457, which the Czech authorities issued; 6) the US company Blane International Group Inc. brokered the export, under the US Government contract number W914NS-05-D-9013-0008; and 7) the Ministry of Defence of the Republic of Iraq provided the Czech authorities with an end-user certificate.

On 30 September 2016, the Government of the Czech Republic responded promptly to a formal trace request issued by CAR on 18 July 2016. This response confirms that: 1) the Czech company Agrozet Uherský Brod (now Česká zbrojovka a.s, Uherský Brod) manufactured the assault rifle with serial number 32166 e, subject to CAR's request, in 1963, in the former Czechoslovakia; 2) Agrozet Uherský Brod supplied the rifle to the Czechoslovak People's Armed Forces; 3) after the Velvet Revolution and the fall of the communist regime in 1989, the rifle was one of many such rifles sold as surplus military materiel to a private company Banzai spol. s.r.o.; 4) Banzai spol s.r.o. sold the aforementioned rifle to the company S.M.S. s.r.o., Dubnica nad Vahom, Slovak Republic, for export to Iraq; 5) S.M.S. s.r.o. exported rifles (including the rifle with serial number 32166 e) to Iraq in July and August 2007 under the export licence number B071220457, which the Czech authorities issued; 6) the US company Blane International Group Inc. brokered the export, under the US Government contract number W914NS-05-D-9013-0008; and 7) the Ministry of Defence of the Republic of Iraq provided the Czech authorities with an end-user certificate.

On 30 September 2016, the Government of the Czech Republic responded promptly to a formal trace request issued by CAR on 18 July 2016. This response confirms that: 1) the Czech company Agrozet Uherský Brod (now Česká zbrojovka a.s, Uherský Brod) manufactured the assault rifle with serial number 15368 f, subject to CAR's request, in 1962, in the former Czechoslovakia; 2) Agrozet Uherský Brod supplied the rifle to the Czechoslovak People's Armed Forces; 3) after the Velvet Revolution and the fall of the communist regime in 1989, the rifle was one of many such rifles sold as surplus military materiel to a private company Banzai spol. s.r.o.; 4) Banzai spol s.r.o. sold the aforementioned rifle to the company S.M.S. s.r.o., Dubnica nad Vahom, Slovak Republic, for export to Iraq; 5) S.M.S. s.r.o. exported rifles (including the rifle with serial number 15368 f) to Iraq in July and August 2007 under the export licence number B071220457, which the Czech authorities issued; 6) the US company Blane International Group Inc. brokered the export, under the US Government contract number W914NS-05-D-9013-0008; and 7) the Ministry of Defence of the Republic of Iraq provided the Czech authorities with an end-user certificate.

On 30 September 2016, the Government of the Czech Republic responded promptly to a formal trace request issued by CAR on 18 July 2016. This response confirms that: 1) the Czech company Agrozet Uherský Brod (now Česká zbrojovka a.s, Uherský Brod) manufactured the assault rifle with serial number 73315, subject to CAR's request, in 1976, in the former Czechoslovakia; 2) Agrozet Uherský Brod supplied the rifle to the Czechoslovak People's Armed Forces; 3) after the Velvet Revolution and the fall of the communist regime in 1989, the rifle was one of many such rifles sold as surplus military materiel to a private company Banzai spol. s.r.o.; 4) Banzai spol s.r.o. sold the aforementioned rifle to the company S.M.S. s.r.o., Dubnica nad Vahom, Slovak Republic, for export to Iraq; 5) S.M.S. s.r.o. exported rifles (including the rifle with serial number 73315) to Iraq in July and August 2007 under the export licence number B071220457, which the Czech authorities issued; 6) the US company Blane International Group Inc. brokered the export, under the US Government contract number W914NS-05-D-9013-0008; and 7) the Ministry of Defence of the Republic of Iraq provided the Czech authorities with an end-user certificate.

On 30 September 2016, the Government of the Czech Republic responded promptly to a formal trace request issued by CAR on 18 July 2016. This response confirms that: 1) the Czech company Agrozet Uherský Brod (now Česká zbrojovka a.s, Uherský Brod) manufactured the assault rifle with serial number p 38929, subject to CAR's request, in 1978, in the former Czechoslovakia; 2) Agrozet Uherský Brod supplied the rifle to the Czechoslovak People's Armed Forces; 3) after the Velvet Revolution and the fall of the communist regime in 1989, the rifle was one of many such rifles sold as surplus military materiel to a private company Banzai spol. s.r.o.; 4) Banzai spol s.r.o. sold the aforementioned rifle

to the company S.M.S. s.r.o., Dubnica nad Vahom, Slovak Republic, for export to Iraq; 5) S.M.S. s.r.o. exported rifles (including the rifle with serial number p 38929) to Iraq in July and August 2007 under the export licence number B071220457, which the Czech authorities issued; 6) the US company Blane International Group Inc. brokered the export, under the US Government contract number W914NS-05-D-9013-0008; and 7) the Ministry of Defence of the Republic of Iraq provided the Czech authorities with an end-user certificate.

On 30 September 2016, the Government of the Czech Republic responded promptly to a formal trace request issued by CAR on 18 July 2016. This response confirms that: 1) the Czech company Agrozet Uherský Brod (now Česká zbrojovka a.s, Uherský Brod) manufactured the assault rifle with serial number 55874 h, subject to CAR's request, in 1961, in the former Czechoslovakia; 2) Agrozet Uherský Brod supplied the rifle to the Czechoslovak People's Armed Forces; 3) after the Velvet Revolution and the fall of the communist regime in 1989, the rifle was one of many such rifles sold as surplus military materiel to a private company Banzai spol. s.r.o.; 4) Banzai spol s.r.o. sold the aforementioned rifle to the company S.M.S. s.r.o., Dubnica nad Vahom, Slovak Republic, for export to Iraq; 5) S.M.S. s.r.o. exported rifles (including the rifle with serial number 55874 h) to Iraq in July and August 2007 under the export licence number B071220457, which the Czech authorities issued; 6) the US company Blane International Group Inc. brokered the export, under the US Government contract number W914NS-05-D-9013-0008; and 7) the Ministry of Defence of the Republic of Iraq provided the Czech authorities with an end-user certificate.

On 30 September 2016, the Government of the Czech Republic responded promptly to a formal trace request issued by CAR on 18 July 2016. This response confirms that: 1) the Czech company Agrozet Uherský Brod (now Česká zbrojovka a.s, Uherský Brod) manufactured the assault rifle with serial number A 15903, subject to CAR's request, in 1970, in the former Czechoslovakia; 2) Agrozet Uherský Brod supplied the rifle to the Czechoslovak People's Armed Forces; 3) after the Velvet Revolution and the fall of the communist regime in 1989, the rifle was one of many such rifles sold as surplus military materiel to a private company Banzai spol. s.r.o.; 4) Banzai spol s.r.o. sold the aforementioned rifle to the company S.M.S. s.r.o., Dubnica nad Vahom, Slovak Republic, for export to Iraq; 5) S.M.S. s.r.o. exported rifles (including the rifle with serial number A 15903) to Iraq in July and August 2007 under the export licence number B071220457, which the Czech authorities issued; 6) the US company Blane International Group Inc. brokered the export, under the US Government contract number W914NS-05-D-9013-0008; and 7) the Ministry of Defence of the Republic of Iraq provided the Czech authorities with an end-user certificate.

On 30 September 2016, the Government of the Czech Republic responded promptly to a formal trace request issued by CAR on 18 July 2016. This response confirms that: 1) the Czech company Agrozet Uherský Brod (now Česká zbrojovka a.s, Uherský Brod) manufactured the assault rifle with serial number 35052 d, subject to CAR's request, in 1964, in the former Czechoslovakia; 2) Agrozet Uherský Brod supplied the rifle to the Czechoslovak People's Armed Forces; 3) after the Velvet Revolution and the fall of the communist regime in 1989, the rifle was one of many such rifles sold as surplus military materiel to a private company Banzai spol. s.r.o.; 4) Banzai spol s.r.o. sold the aforementioned rifle to the company S.M.S. s.r.o., Dubnica nad Vahom, Slovak Republic, for export to Iraq; 5) S.M.S. s.r.o. exported rifles (including the rifle with serial number 35052 d) to Iraq in July and August 2007 under the export licence number B071220457, which the Czech authorities issued; 6) the US company Blane International Group Inc. brokered the export, under the US Government contract number W914NS-05-D-9013-0008; and 7) the Ministry of Defence of the Republic of Iraq provided the Czech authorities with an end-user certificate.

On 30 September 2016, the Government of the Czech Republic responded promptly to a formal trace request issued by CAR on 18 July 2016. This response confirms that: 1) the Czech company Agrozet Uherský Brod (now Česká zbrojovka a.s, Uherský Brod) manufactured the assault rifle with serial number Y 35093, subject to CAR's request, in 1972, in the former Czechoslovakia; 2) Agrozet Uherský Brod supplied the rifle to the Czechoslovak People's Armed Forces; 3) after the Velvet Revolution and the fall of the communist regime in 1989, the rifle was one of many such rifles sold as surplus military

materiel to a private company Banzai spol. s.r.o.; 4) Banzai spol s.r.o. sold the aforementioned rifle to the company S.M.S. s.r.o., Dubnica nad Vahom, Slovak Republic, for export to Iraq; 5) S.M.S. s.r.o. exported rifles (including the rifle with serial number Y 35093) to Iraq in July and August 2007 under the export licence number B071220457, which the Czech authorities issued; 6) the US company Blane International Group Inc. brokered the export, under the US Government contract number W914NS-05-D-9013-0008; and 7) the Ministry of Defence of the Republic of Iraq provided the Czech authorities with an end-user certificate.

On 30 September 2016, the Government of the Czech Republic responded promptly to a formal trace request issued by CAR on 18 July 2016. This response confirms that: 1) the Czech company Agrozet Uherský Brod (now Česká zbrojovka a.s, Uherský Brod) manufactured the assault rifle with serial number 52126 n, subject to CAR's request, in 1960, in the former Czechoslovakia; 2) Agrozet Uherský Brod supplied the rifle to the Czechoslovak People's Armed Forces; 3) after the Velvet Revolution and the fall of the communist regime in 1989, the rifle was one of many such rifles sold as surplus military materiel to a private company Banzai spol. s.r.o.; 4) Banzai spol s.r.o. sold the aforementioned rifle to the company S.M.S. s.r.o., Dubnica nad Vahom, Slovak Republic, for export to Iraq; 5) S.M.S. s.r.o. exported rifles (including the rifle with serial number 52126 n) to Iraq in July and August 2007 under the export licence number B071220457, which the Czech authorities issued; 6) the US company Blane International Group Inc. brokered the export, under the US Government contract number W914NS-05-D-9013-0008; and 7) the Ministry of Defence of the Republic of Iraq provided the Czech authorities with an end-user certificate.

On 30 September 2016, the Government of the Czech Republic responded promptly to a formal trace request issued by CAR on 18 July 2016. This response confirms that: 1) the Czech company Agrozet Uherský Brod (now Česká zbrojovka a.s, Uherský Brod) manufactured the assault rifle with serial number 69248 t, subject to CAR's request, in 1964, in the former Czechoslovakia; 2) Agrozet Uherský Brod supplied the rifle to the Czechoslovak People's Armed Forces; 3) after the Velvet Revolution and the fall of the communist regime in 1989, the rifle was one of many such rifles sold as surplus military materiel to a private company Banzai spol. s.r.o.; 4) Banzai spol s.r.o. sold the aforementioned rifle to the company S.M.S. s.r.o., Dubnica nad Vahom, Slovak Republic, for export to Iraq; 5) S.M.S. s.r.o. exported rifles (including the rifle with serial number 69248 t) to Iraq in July and August 2007 under the export licence number B071220457, which the Czech authorities issued; 6) the US company Blane International Group Inc. brokered the export, under the US Government contract number W914NS-05-D-9013-0008; and 7) the Ministry of Defence of the Republic of Iraq provided the Czech authorities with an end-user certificate.

On 30 September 2016, the Government of the Czech Republic responded promptly to a formal trace request issued by CAR on 18 July 2016. This response confirms that: 1) the Czech company Agrozet Uherský Brod (now Česká zbrojovka a.s, Uherský Brod) manufactured the assault rifle with serial number 38260, subject to CAR's request, in 1962, in the former Czechoslovakia; 2) Agrozet Uherský Brod supplied the rifle to the Czechoslovak People's Armed Forces; 3) after the Velvet Revolution and the fall of the communist regime in 1989, the rifle was one of many such rifles sold as surplus military materiel to a private company Banzai spol. s.r.o.; 4) Banzai spol s.r.o. sold the aforementioned rifle to the company S.M.S. s.r.o., Dubnica nad Vahom, Slovak Republic, for export to Iraq; 5) S.M.S. s.r.o. exported rifles (including the rifle with serial number 38260) to Iraq in July and August 2007 under the export licence number B071220457, which the Czech authorities issued; 6) the US company Blane International Group Inc. brokered the export, under the US Government contract number W914NS-05-D-9013-0008; and 7) the Ministry of Defence of the Republic of Iraq provided the Czech authorities with an end-user certificate.

On 30 September 2016, the Government of the Czech Republic responded promptly to a formal trace request issued by CAR on 18 July 2016. This response confirms that: 1) the Czech company Agrozet Uherský Brod (now Česká zbrojovka a.s, Uherský Brod) manufactured the assault rifle with serial number Y 13963, subject to CAR's request, in 1971, in the former Czechoslovakia; 2) Agrozet Uherský Brod supplied the rifle to the Czechoslovak People's Armed Forces; 3) after the Velvet Revolution and

the fall of the communist regime in 1989, the rifle was one of many such rifles sold as surplus military materiel to a private company Banzai spol. s.r.o.; 4) Banzai spol s.r.o. sold the aforementioned rifle to the company S.M.S. s.r.o., Dubnica nad Vahom, Slovak Republic, for export to Iraq; 5) S.M.S. s.r.o. exported rifles (including the rifle with serial number Y 13963) to Iraq in July and August 2007 under the export licence number B071220457, which the Czech authorities issued; 6) the US company Blane International Group Inc. brokered the export, under the US Government contract number W914NS-05-D-9013-0008; and 7) the Ministry of Defence of the Republic of Iraq provided the Czech authorities with an end-user certificate.

On 30 September 2016, the Government of the Czech Republic responded promptly to a formal trace request issued by CAR on 18 July 2016. This response confirms that: 1) the Czech company Agrozet Uherský Brod (now Česká zbrojovka a.s, Uherský Brod) manufactured the assault rifle with serial number 57598 t, subject to CAR's request, in 1964, in the former Czechoslovakia; 2) Agrozet Uherský Brod supplied the rifle to the Czechoslovak People's Armed Forces; 3) after the Velvet Revolution and the fall of the communist regime in 1989, the rifle was one of many such rifles sold as surplus military materiel to a private company Banzai spol. s.r.o.; 4) Banzai spol s.r.o. sold the aforementioned rifle to the company S.M.S. s.r.o., Dubnica nad Vahom, Slovak Republic, for export to Iraq; 5) S.M.S. s.r.o. exported rifles (including the rifle with serial number 57598 t) to Iraq in July and August 2007 under the export licence number B071220457, which the Czech authorities issued; 6) the US company Blane International Group Inc. brokered the export, under the US Government contract number W914NS-05-D-9013-0008; and 7) the Ministry of Defence of the Republic of Iraq provided the Czech authorities with an end-user certificate.

On 30 September 2016, the Government of the Czech Republic responded promptly to a formal trace request issued by CAR on 18 July 2016. This response confirms that: 1) the Czech company Agrozet Uherský Brod (now Česká zbrojovka a.s, Uherský Brod) manufactured the assault rifle with serial number 27224 j, subject to CAR's request, in 1969, in the former Czechoslovakia; 2) Agrozet Uherský Brod supplied the rifle to the Czechoslovak People's Armed Forces; 3) after the Velvet Revolution and the fall of the communist regime in 1989, the rifle was one of many such rifles sold as surplus military materiel to a private company Banzai spol. s.r.o.; 4) Banzai spol s.r.o. sold the aforementioned rifle to the company S.M.S. s.r.o., Dubnica nad Vahom, Slovak Republic, for export to Iraq; 5) S.M.S. s.r.o. exported rifles (including the rifle with serial number 27224 j) to Iraq in July and August 2007 under the export licence number B071220457, which the Czech authorities issued; 6) the US company Blane International Group Inc. brokered the export, under the US Government contract number W914NS-05-D-9013-0008; and 7) the Ministry of Defence of the Republic of Iraq provided the Czech authorities with an end-user certificate.

On 30 September 2016, the Government of the Czech Republic responded promptly to a formal trace request issued by CAR on 18 July 2016. This response confirms that: 1) the Czech company Agrozet Uherský Brod (now Česká zbrojovka a.s, Uherský Brod) manufactured the assault rifle with serial number 60370 p, subject to CAR's request, in 1962, in the former Czechoslovakia; 2) Agrozet Uherský Brod supplied the rifle to the Czechoslovak People's Armed Forces; 3) after the Velvet Revolution and the fall of the communist regime in 1989, the rifle was one of many such rifles sold as surplus military materiel to a private company Banzai spol. s.r.o.; 4) Banzai spol s.r.o. sold the aforementioned rifle to the company S.M.S. s.r.o., Dubnica nad Vahom, Slovak Republic, for export to Iraq; 5) S.M.S. s.r.o. exported rifles (including the rifle with serial number 60370 p) to Iraq in July and August 2007 under the export licence number B071220457, which the Czech authorities issued; 6) the US company Blane International Group Inc. brokered the export, under the US Government contract number W914NS-05-D-9013-0008; and 7) the Ministry of Defence of the Republic of Iraq provided the Czech authorities with an end-user certificate.

On 30 September 2016, the Government of the Czech Republic responded promptly to a formal trace request issued by CAR on 18 July 2016. This response confirms that: 1) the Czech company Agrozet Uherský Brod (now Česká zbrojovka a.s, Uherský Brod) manufactured the assault rifle with serial number Y 61821, subject to CAR's request, in 1970, in the former Czechoslovakia; 2) Agrozet Uherský

Brod supplied the rifle to the Czechoslovak People's Armed Forces; 3) after the Velvet Revolution and the fall of the communist regime in 1989, the rifle was one of many such rifles sold as surplus military materiel to a private company Banzai spol. s.r.o.; 4) Banzai spol s.r.o. sold the aforementioned rifle to the company S.M.S. s.r.o., Dubnica nad Vahom, Slovak Republic, for export to Iraq; 5) S.M.S. s.r.o. exported rifles (including the rifle with serial number Y 61821) to Iraq in July and August 2007 under the export licence number B071220457, which the Czech authorities issued; 6) the US company Blane International Group Inc. brokered the export, under the US Government contract number W914NS-05-D-9013-0008; and 7) the Ministry of Defence of the Republic of Iraq provided the Czech authorities with an end-user certificate.

On 30 September 2016, the Government of the Czech Republic responded promptly to a formal trace request issued by CAR on 18 July 2016. This response confirms that: 1) the Czech company Agrozet Uherský Brod (now Česká zbrojovka a.s, Uherský Brod) manufactured the assault rifle with serial number 22657 d, subject to CAR's request, in 1963, in the former Czechoslovakia; 2) Agrozet Uherský Brod supplied the rifle to the Czechoslovak People's Armed Forces; 3) after the Velvet Revolution and the fall of the communist regime in 1989, the rifle was one of many such rifles sold as surplus military materiel to a private company Banzai spol. s.r.o.; 4) Banzai spol s.r.o. sold the aforementioned rifle to the company S.M.S. s.r.o., Dubnica nad Vahom, Slovak Republic, for export to Iraq; 5) S.M.S. s.r.o. exported rifles (including the rifle with serial number 22657 d) to Iraq in July and August 2007 under the export licence number B071220457, which the Czech authorities issued; 6) the US company Blane International Group Inc. brokered the export, under the US Government contract number W914NS-05-D-9013-0008; and 7) the Ministry of Defence of the Republic of Iraq provided the Czech authorities with an end-user certificate.

On 30 September 2016, the Government of the Czech Republic responded promptly to a formal trace request issued by CAR on 18 July 2016. This response confirms that: 1) the Czech company Agrozet Uherský Brod (now Česká zbrojovka a.s, Uherský Brod) manufactured the assault rifle with serial number 58999 h, subject to CAR's request, in 1961, in the former Czechoslovakia; 2) Agrozet Uherský Brod supplied the rifle to the Czechoslovak People's Armed Forces; 3) after the Velvet Revolution and the fall of the communist regime in 1989, the rifle was one of many such rifles sold as surplus military materiel to a private company Banzai spol. s.r.o.; 4) Banzai spol s.r.o. sold the aforementioned rifle to the company S.M.S. s.r.o., Dubnica nad Vahom, Slovak Republic, for export to Iraq; 5) S.M.S. s.r.o. exported rifles (including the rifle with serial number 58999 h) to Iraq in July and August 2007 under the export licence number B071220457, which the Czech authorities issued; 6) the US company Blane International Group Inc. brokered the export, under the US Government contract number W914NS-05-D-9013-0008; and 7) the Ministry of Defence of the Republic of Iraq provided the Czech authorities with an end-user certificate.

On 30 September 2016, the Government of the Czech Republic responded promptly to a formal trace request issued by CAR on 18 July 2016. This response confirms that: 1) the Czech company Agrozet Uherský Brod (now Česká zbrojovka a.s, Uherský Brod) manufactured the assault rifle with serial number T 64574, subject to CAR's request, in 1980, in the former Czechoslovakia; 2) Agrozet Uherský Brod supplied the rifle to the Czechoslovak People's Armed Forces; 3) after the Velvet Revolution and the fall of the communist regime in 1989, the rifle was one of many such rifles sold as surplus military materiel to a private company Banzai spol. s.r.o.; 4) Banzai spol s.r.o. sold the aforementioned rifle to the company S.M.S. s.r.o., Dubnica nad Vahom, Slovak Republic, for export to Iraq; 5) S.M.S. s.r.o. exported rifles (including the rifle with serial number T 64574) to Iraq in July and August 2007 under the export licence number B071220457, which the Czech authorities issued; 6) the US company Blane International Group Inc. brokered the export, under the US Government contract number W914NS-05-D-9013-0008; and 7) the Ministry of Defence of the Republic of Iraq provided the Czech authorities with an end-user certificate.

- On 15 June 2017, the Government of the Czech Republic responded to a formal trace request issued by CAR on 28 April 2017. This response confirms that: 1) The Agrozet Uherský Brod company (now Česká zbrojovka Uherský Brod) of the former Czechoslovakia manufactured the vz. 58 P assault rifle with lot number 26103 m, subject to CAR's trace request, in 1961; 2) Agrozet Uherský Brod supplied the rifle to the Czechoslovak People's Armed Forces; 3) the rifle was later sold as surplus military materiel to the Banzai spol. s.r.o. company; 4) Banzai spol s.r.o. exported the aforementioned rifle to Iraq in August 2007; and 4) the Ministry of Defence of the Republic of Iraq provided the Czech authorities with an end-user certificate.
- 66 FedBizOpps (2015).
- 67 Roston (2017).
- 68 InsideGov (n.d.a).
- 69 InsideGov (n.d.b).
- 70 On 8 June 2016, the Government of the Republic of Bulgaria responded promptly to a formal trace request issued by CAR on 5 May 2016. This response confirms that: 1) the Bulgarian company Arsenal JSCO manufactured the RHEAT-9MA round with consignment number ((10))-04-11, subject to CAR's request; 2) on 16 September 2014, Bulgarian authorities granted an export licence to the Ministry of Defence of Saudi Arabia; 3) the original end-user certificate, issued by the Ministry of Defence of Saudi Arabia and dated 30.09.1435 AH (which corresponds to 27.07.2014 CE) accompanied the export licence application; 4) the certificate stated that the items were for the use of the Royal Saudi Land Forces and would not be re-exported, lent, or rented without the written permission of the competent authorities of the exporter state and 5) the export was realised in December 2014 from Sofia Airport, Bulgaria to Tabuk Airport, Saudi Arabia.
- 71 On 26 April 2017, the Government of the Republic of Bulgaria responded promptly to a formal trace request issued by CAR on 14 February 2017. This response confirms that: 1) Arsenal JSCO manufactured the CP-91 charge with lot number ((10))-04-11, subject to CAR's trace request, and assembled this component into RHEAT-9MA rounds with the same lot number; 2) Bulgarian authorities authorised the export to the Ministry of Defence of the Kingdom of Saudi Arabia and; 3) an undisclosed company exported the goods on 19 December 2014.
- 72 In Yemen in April 2017, CAR documented two M79 90 mm rockets recovered from Houthi forces by Presidential Guard forces of the United Arab Emirates the same month. The lot number of one rocket matched that of a rocket CAR previously documented in Libya, and the other, with a rocket CAR documented in Iraq.
- 73 On 30 August 2016, the Government of Bosnia and Herzegovina responded to a series of formal trace requests issued by CAR on 11 July 2016. This response confirms that: 1) PRETIS dd Vogošća was the only manufacturer of M79 90 mm rockets between 1980 and 1992; 2) between 1980 and 1992, it produced more than 200,000 rockets, which were delivered to the then Yugoslav army and Ministry of Defence of Yugoslavia; 3) PRETIS dd Vogošća (located on the line of demarcation) was active during the war, but its factories did not manufacture M79 rockets after 1992; 4) while Bosnian authorities can confirm that these items were used during the war, they cannot confirm, due to the absence of records, where they were stockpiled after the dissolution of Yugoslavia; and 6) there were no exports from Bosnia of this type of materiel after 2004 (when relevant record-keeping resumed).
- 74 On 29 June 2016, the Government of the Republic of Slovenia responded promptly to a formal trace request issued by CAR on 24 May 2016. In its response, the Government of the Republic of Slovenia stated that it delivered 132 M79 rockets with lot number TB8606 (the same lot number as the item documented by CAR) to the Slovak end-user Vojenský Opravárenský Podnik, Podnik 015, (with end user certificate number č. D502/0041, dated 14 February 2005) for demilitarisation. Slovenian authorities

issued an export licence to the company Viator & Vector d.d, Ljubljana, Slovenia. The Vrankar d.o.o company shipped the consignment by road between 13 May 2005 and 9 August 2005, to the declared end-user in Slovakia. The Slovenian authorities cannot confirm that the item CAR documented was part of this shipment however, as the rounds were initially in the custody of the Yugoslavian Army, and therefore it is likely that another former Yugoslavian state retained items with the same lot number.

On 13 July 2016, the Slovenian authorities confirmed that the Titovo Vogošće factory, Bosnia and Herzegovina, manufactured M79 HEAT rockets with lot number TB8606, in the mid 1980s. The Government of the Republic of Slovenia included a copy of the end-user certificate in its response to CAR.

On 14 September 2016, the Government of the Republic of Slovenia responded promptly to a formal trace request issued by CAR on 13 July 2016, concerning an M79 90 mm HEAT rocket with the lot number 8902. In its response, the Government of the Republic of Slovenia stated that it delivered 691 M79 90 mm HEAT rockets, with the lot number 8902, to the Slovak end-user Vojenský Opravárenský Podnik, Podnik 015, (with end-user certificate number č. D502/0041, dated 14 February 2005) for demilitarisation. Slovenian authorities issued an export licence to the company Viator & Vector d.d, Ljubljana, Slovenia. The Vrankar d.o.o company shipped the consignment by road between 13 May 2005 and 9 August 2005, to the declared end-user in Slovakia. The Slovenian authorities cannot confirm that the item CAR documented was part of this shipment, however, because the rounds were initially in the custody of the Yugoslav National Army, and it is plausible that more than one successor state to the former Yugoslavia retained items with the same lot number. The Government of the Republic of Slovenia included a copy of the end-user certificate in its response to CAR.

On 14 September 2016, the Government of the Republic of Slovenia responded promptly to a formal trace request issued by CAR on 13 July 2016, concerning an M79 90 mm HEAT rocket with the lot number 8905. In its response, the Government of the Republic of Slovenia stated that it delivered 75 M79 90 mm HEAT rockets with lot number 8905 to the Slovak end-user Vojenský Opravárenský Podnik, Podnik 015, (with end-user certificate number č. D502/0041, dated 14 February 2005) for demilitarisation. Slovenian authorities issued an export licence to the company Viator & Vector d.d, Ljubljana, Slovenia. The Vrankar d.o.o company shipped the consignment by road between 13 May 2005 and 9 August 2005, to the declared end-user in Slovakia. The Slovenian authorities cannot confirm that the item CAR documented was part of this shipment, however, because the rounds were initially in the custody of the Yugoslav National Army, and it is plausible that more than one successor state to the former Yugoslavia retained items with the same lot number. The Government of the Republic of Slovenia included a copy of the end-user certificate in its response to CAR.

On 14 September 2016, the Government of the Republic of Slovenia responded promptly to a formal trace request issued by CAR on 13 July 2016, concerning an M79 90 mm HEAT rocket with the lot number 8801. In its response, the Government of the Republic of Slovenia stated that it delivered 82 M79 90 mm HEAT rockets with lot number 8801 to the Slovak end-user Vojenský Opravárenský Podnik, Podnik 015, (with end-user certificate number č. D502/0041, dated 14 February 2005) for demilitarisation. Slovenian authorities issued an export licence to the company Viator & Vector d.d, Ljubljana, Slovenia. The Vrankar d.o.o company shipped the consignment by road between 13 May 2005 and 9 August 2005, to the declared end-user in Slovakia. The Slovenian authorities cannot confirm that the item CAR documented was part of this shipment, however, because the rounds were initially in the custody of the Yugoslav National Army, and it is plausible that more than one successor state to the former Yugoslavia retained items with the same lot number. The Government of the Republic of Slovenia included a copy of the end-user certificate in its response to CAR.

On 14 September 2016, the Government of the Republic of Slovenia responded promptly to a formal trace request issued by CAR on 13 July 2016, concerning an M79 90 mm HEAT rocket with the lot number 8505. In its response, the Government of the Republic of Slovenia stated that it delivered 3 rockets with lot number 8505 (the same lot number as the item documented by CAR), to the Slovak end-user Vojenský Opravárenský Podnik, Podnik 015, (with end-user certificate number č. D502/0041,

dated 14 February 2005) for demilitarisation. Slovenian authorities issued an export licence to the company Viator & Vector d.d, Ljubljana, Slovenia. The Vrankar d.o.o company shipped the consignment by road between 13 May 2005 and 9 August 2005, to the declared end-user in Slovakia. The Slovenian authorities cannot confirm that the item CAR documented was part of this shipment, however, because the rounds were initially in the custody of the Yugoslav National Army, and it is plausible that more than one successor state to the former Yugoslavia retained items with the same lot number. The Government of the Republic of Slovenia included a copy of the end-user certificate in its response to CAR.

On 14 September 2016, the Government of the Republic of Slovenia responded promptly to a formal trace request issued by CAR on 13 July 2016, concerning an M79 90 mm HEAT rocket with the lot number 8805. In its response, the Government of the Republic of Slovenia stated that it delivered 30 rockets with lot number 8805 (the Slovenian authorities records' only show the lot numbers of the rockets and not the unique serial numbers), the same lot number as the item documented by CAR, to the Slovak end-user Vojenský Opravárenský Podnik, Podnik 015, (with end-user certificate number č. D502/0041, dated 14 February 2005) for demilitarisation. Slovenian authorities issued an export licence to the company Viator & Vector d.d, Ljubljana, Slovenia. The Vrankar d.o.o company shipped the consignment by road between 13 May 2005 and 9 August 2005, to the declared end-user in Slovakia. The Slovenian authorities cannot confirm that the item CAR documented was part of this shipment, however, because the rounds were initially in the custody of the Yugoslav National Army, and it is plausible that more than one successor state to the former Yugoslavia retained items with the same lot number. The Government of the Republic of Slovenia included a copy of the end-user certificate in its response to CAR.

On 14 September 2016, the Government of the Republic of Slovenia responded promptly to a formal trace request issued by CAR on 13 July 2016, concerning an M79 90 mm HEAT rocket with the lot number 8505-1. In its response, the Government of the Republic of Slovenia stated that it delivered 397 rockets with lot number 8505-1 to the Slovak end-user Vojenský Opravárenský Podnik, Podnik 015, (with end-user certificate number č. D502/0041, dated 14 February 2005) for demilitarisation. Slovenian authorities issued an export licence to the company Viator & Vector d.d, Ljubljana, Slovenia. The Vrankar d.o.o company shipped the consignment by road between 13 May 2005 and 9 August 2005, to the declared end-user in Slovakia. The Slovenian authorities cannot confirm that the item CAR documented was part of this shipment, however, because the rounds were initially in the custody of the Yugoslav National Army, and it is plausible that more than one successor state to the former Yugoslavia retained items with the same lot number. The Government of the Republic of Slovenia included a copy of the end-user certificate in its response to CAR.

On 14 September 2016, the Government of the Republic of Slovenia responded promptly to a formal trace request issued by CAR on 13 July 2016, concerning an M79 90 mm HEAT rocket with the lot number 8803. In its response, the Government of the Republic of Slovenia stated that it delivered 381 rockets with lot number 8803 (the Slovenian authorities records' only show the lot numbers of the rockets and not the unique serial numbers), the same lot number as the item documented by CAR, to the Slovak end-user Vojenský Opravárenský Podnik, Podnik 015, (with end-user certificate number č. D502/0041, dated 14 February 2005) for demilitarisation. Slovenian authorities issued an export licence to the company Viator & Vector d.d, Ljubljana, Slovenia. The Vrankar d.o.o company shipped the consignment by road between 13 May 2005 and 9 August 2005, to the declared end-user in Slovakia. The Slovenian authorities cannot confirm that the item CAR documented was part of this shipment, however, because the rounds were initially in the custody of the Yugoslav National Army, and it is plausible that more than one successor state to the former Yugoslavia retained items with the same lot number. The Government of the Republic of Slovenia included a copy of the end-user certificate in its response to CAR.

- 75 On 27 July 2016, the Government of the Slovak Republic responded promptly to a formal trace request issued by CAR on 1 July 2016. This response confirms that the Slovak demilitarisation company Vojenský Opravárenský Podnik provided the Slovak authorities with a copy of the ecological disposal

protocol, confirming that the company disposed of the M79 90 mm HEAT rockets that it received from the Government of Slovenia. The Slovak authorities confirmed with CAR that the provided protocol is credible.

On 17 October 2016, the Government of the Slovak Republic responded promptly to a formal trace request issued by CAR on 16 September 2016. This response confirms that the Slovak demilitarisation company Vojenský Opravárenský Podnik provided the Slovak authorities with a copy of the ecological disposal protocol, confirming that the company disposed of the M79 90 mm HEAT rockets that it received from the Government of Slovenia. The Slovak authorities confirmed with CAR that the provided protocol is credible and that the Ministry of Economy has not issued any export licences for this type of materiel.

- 76 On 21 January 2015, the Ministry of Foreign and European Affairs of the Republic of Croatia replied that the ammunition in question was not produced in the Republic of Croatia and had not been subject to export from the Republic of Croatia.
- 77 CAR (2016b, pp. 11–24).
- 78 CAR (2016b, pp. 23–24).
- 79 UNSC (2014, paras. 168–99).
- 80 CAR (2016b, p. 24).
- 81 On 13 May 2015, the Government of Belgium responded to a formal trace request issued by CAR on 27 March 2015. This response confirms that the FN Herstal-manufactured rifle with serial number 1527473, subject to CAR’s trace request, was part of order number 23-2-9108 of 24 October 1979, which was delivered to Pakistan on an unspecified date.
- 82 Interview with Belgian National Archives’ archivist, 2013: due to the sheer volume of documents being transferred by the Belgian administration to the National Archives, a small number were discarded and destroyed by mistake.
- 83 On 13 May 2015, the Government of Belgium responded to a formal trace request issued by CAR on 27 March 2015. This response confirms that FN Herstal manufactured the rifle with serial number 1557540, subject to CAR’s trace request, in the late 1970s or early 1980s. FN Herstal could not provide further information regarding the export/transfer of this item.
- 84 UNSC (2013).
- 85 These conflicts include those in Central African Republic, Libya, Mali, South Sudan, and Sudan. See CAR (2015a, pp. 8–11; 2016b, pp. 25–28; 2017).
- 86 See Leff and LeBrun (2014). See also Small Arms Survey with CAR (2013).
- 87 Observations based on CAR field work conducted in Africa and the Middle East, 2011–17.
- 88 On 28 July 2017, the Government of Romania responded promptly to a formal trace request issued by CAR on 30 June 2017. This response confirms that: 1) Carfil manufactured the OG-7 40 mm projectile with lot number 12-06-426 (with V5KM fuze with lot number 11-06-426), subject to CAR’s trace request, in 2006; 2) the Romanian export control authority issued an export licence based on an end-user certificate (EUC) dated 6 February 2006 and a US Government contract, for sole use by the Afghanistan National Police, the declared end-user; 3) a US Government contractor and British subcontractor brokered the deal; 4) a Romanian company delivered the item, as part of a consignment of 3,000 OG-7 projectiles, to the end-user on 26 April 2006; and 5) the US Government issued a delivery verification

certificate (DVC) to the Romanian authorities on behalf of the end-user, which confirmed delivery of the items on 27 April 2006 and was signed on 28 April 2006. The Romanian export control authority included copies of the EUC and DVC in its response to CAR.

- 89 On 8 June 2016, the Government of the Republic of Bulgaria responded promptly to a formal trace request issued by CAR on 5 May 2016. This response confirms that: 1) the Bulgarian company VMZ Sopot manufactured the PG-7PM starter charge with consignment number 1-14-((11)), with NBL-42 powder, subject to CAR's request; 2) in 2014, Bulgarian authorities authorised the export of part of the consignment to the Ministry of Defence of Azerbaijan; 3) the original end-user certificate (EUC) accompanied the export licence application; and 4) the export was realised on 18 December 2014 from Bourgas Airport, Bulgaria, to Baku Airport, Azerbaijan.
- 90 On 13 July 2017, the Government of Bosnia and Herzegovina responded promptly and comprehensively to a formal trace request issued by CAR on 12 June 2017. This response confirms: 1) the Isman-Konjic factory manufactured the 5.56 x 45 mm ammunition with lot number IK 98 06 05, subject to CAR's trace request, between 1997 and 1998; and 2) UNIS – Promex, Sarajevo, exported the ammunition to the Ministry of Internal Affairs of Turkey as part of a consignment of five million rounds.

On 13 July 2017, the Government of Bosnia and Herzegovina responded promptly and comprehensively to a formal trace request issued by CAR on 12 June 2017. This response confirms: 1) the Isman-Konjic factory manufactured the 5.56 x 45 mm ammunition with lot number IK 98 04 04, subject to CAR's trace request, between 1997 and 1998; and 2) UNIS – Promex, Sarajevo, exported the ammunition to the Ministry of Internal Affairs of Turkey as part of a consignment of five million rounds.

- 91 On 8 June 2016, the Government of the Republic of Bulgaria responded promptly to a formal trace request issued by CAR on 5 May 2016. This response confirms that: 1) the Bulgarian company Arsenal JSCo manufactured the CP-71 charge (lot number ((10))-02-12), with NBL-42 powder (consignment number ((10))-12-11), subject to CAR's request; 2) CP-71 charges with the consignment number ((10))-02-12 were used by Arsenal to assemble 40 mm RF-7MA rounds with lot number ((10))-04-13, which were sold to Bulgarian companies authorised to export defence-related goods and subsequently exported to three entities: a) In December 2013, the Bulgarian authorities authorised the transfer of part of the consignment of RF-7MA rounds to the Bulgarian company Aheloy OPM. Aheloy OPM transferred the consignment of RF-7MA rounds to the Slovak company Kelson S.R.O., with declared re-export to the Ministry of Defence of the Kingdom of Saudi Arabia. The export licence application included an international import certificate (IIC), issued by the Slovak authorities, a notarised copy of the end-user certificate (EUC), issued by the Ministry of Defence of the Kingdom of Saudi Arabia for the Slovak company Kelson S.R.O, and a notarised letter to confirm that the Slovak authorities retained the original EUC. Aheloy OPM transferred the consignment of RF-7MA rounds to Kelson S.R.O. in two transactions: 150 rounds transferred on 30 September 2013 from Bourgas Airport, Bulgaria, to Bratislava Airport, Slovak Republic and 4,866 rounds transferred on 18 February 2014, from Bourgas Airport, Bulgaria, to Bratislava Airport, Slovak Republic. b) In 2013, the Bulgarian authorities authorised the export of part of the consignment of RF-7MA rounds to the Ministry of Defence of Afghanistan. The export was realised in March 2014 from Bourgas Airport, Bulgaria to Kabul Airport, Afghanistan. The recipient subsequently provided a delivery verification certificate (DVC) to the Bulgarian authorities; c) In 2013, Bulgarian authorities authorised the export of part of the consignment of RF-7MA rounds to the Royal Gendarmerie of Morocco. The original EUC accompanied the application for the export licence. The export was realised in March 2014 from Bourgas Airport, Bulgaria, to Casablanca Airport, Morocco. The recipient subsequently provided a DVC to the Bulgarian authorities.
- 92 On 8 June 2016, the Government of the Republic of Bulgaria responded promptly to a formal trace request issued by CAR on 5 May 2016. This response confirms that: 1) the Bulgarian company Arsenal JSCo manufactured the CP-71 propelling charge (consignment number ((10))-02-14) with NBL-42 powder (consignment number ((10))-09-13), subject to CAR's request, and assembled these components into 40 mm RF-7MA rounds with consignment number ((10))-04-14; 2) Arsenal sold these RF-7MA rounds to Bulgarian companies authorised to export defence-related goods, and subsequently

exported the rounds to four entities: a) In June 2014, Bulgarian authorities authorised an export of part of the consignment to the Department of the South African National Defence Force. The original end-user certificate (EUC) accompanied the export licence application. The export was realised in August 2014 from Bourgas Airport, Bulgaria, to Polokwane Airport, Republic of South Africa. The recipient subsequently provided a delivery verification certificate (DVC) to the Bulgarian authorities. b) In June 2014, Bulgarian authorities authorised a transfer of part of the consignment to the Ministry of Defence of France. The original EUC, issued by the Ministry of Defence of France, accompanied the export licence application. The transfer was realised on 25 February 2015 by land transportation. The recipient subsequently provided a DVC to the Bulgarian authorities. c) In December 2013, Bulgarian authorities authorised the transfer of part of the consignment of RF-7MA rounds to the Bulgarian company Aheloy OPM. Aheloy OPM transferred the consignment of RF-7MA rounds to the Slovak company Kelson S.R.O., with declared re-export to the Ministry of Defence of the Kingdom of Saudi Arabia. The export licence application included an international import certificate (IIC) issued by the Slovak authorities, a notarised copy of the EUC issued by the Ministry of Defence of the Kingdom of Saudi Arabia, and a notarised letter to confirm that the Slovak authorities retained the original EUC. The transfer of 10,000 rounds was realised on 17 August 2014, from Bourgas Airport, Bulgaria, to Bratislava Airport, Slovak Republic. d) In 2014, Bulgarian authorities authorised an export of part of the consignment to the Ministry of Defence of Saudi Arabia. The original EUC accompanied the export licence application. The export was realised on 3 November 2014 from Sofia Airport, Bulgaria, to Tabuk Airport, Saudi Arabia. The recipient subsequently issued a DVC stating that the items were delivered on 5 November 2014.

On 26 June 2017, the Government of the Republic of Bulgaria responded promptly to a formal trace request issued by CAR on 14 February 2017. This response confirms that: 1) the Bulgarian company Arsenal JSCo manufactured the CP-71 propelling charge (consignment number ((10))-02-14) with NBL-42 powder (consignment number ((10))-09-13), subject to CAR's request, and assembled these components into 40 mm RF-7MA rounds with consignment number ((10))-04-14; 2) Arsenal sold these RF-7MA rounds to Bulgarian companies authorised to export defence-related goods, and subsequently exported the rounds to four entities:

- a) In June 2014, Bulgarian authorities authorised an export of part of the consignment to the Department of the South African National Defence Force. The original end-user certificate (EUC) accompanied the export licence application. The export was realised on 25 August 2014 from Bourgas Airport, Bulgaria, to Polokwane Airport, Republic of South Africa. The recipient subsequently provided a delivery verification certificate (DVC) to the Bulgarian authorities.
- b) In June 2014, Bulgarian authorities authorised a transfer of part of the consignment to the Ministry of Defence of France. The original EUC, issued by the Ministry of Defence of France, accompanied the export licence application. The transfer was realised on 25 February 2015 by land transportation. The recipient subsequently provided a DVC to the Bulgarian authorities.
- c) In December 2013, Bulgarian authorities authorised the transfer of part of the consignment of RF-7MA rounds to the Bulgarian company Aheloy OPM. Aheloy OPM transferred the consignment of RF-7MA rounds to the Slovak company Kelson S.R.O., with declared re-export to the Ministry of Defence of the Kingdom of Saudi Arabia. The export licence application included an international import certificate (IIC) issued by the Slovak authorities, a notarised copy of the EUC issued by the Ministry of Defence of the Kingdom of Saudi Arabia, and a notarised letter to confirm that the Slovak authorities retained the original EUC. The transfer of 10,000 rounds was realised on 17 August 2014, from Bourgas Airport, Bulgaria, to Bratislava Airport, Slovak Republic.
- d) In 2014, Bulgarian authorities authorised an export of part of the consignment to the Ministry of Defence of Saudi Arabia. The original EUC accompanied the export licence application. The export was realised on 3 November 2014 from Sofia Airport, Bulgaria, to Tabuk Airport, Saudi Arabia. The recipient subsequently issued a DVC stating that the items were delivered on 5 November 2014.

- 93 The Government of the Slovak Republic confirmed that it was one of the importers of RF-7MA rounds with lot number ((10))-04-13, which included CP-71 charge with lot number ((10))-02-12, from the Government of the Republic of Bulgaria in 2014. The Slovak authorities did not provide any further information regarding any subsequent exports of this materiel.
- The Government of the Slovak Republic confirmed that it was one of the importers of RF-7MA rounds with lot number ((10))-04-14, which included CP-71 charge with lot number ((10))-09-13, from the Government of the Republic of Bulgaria in 2014. The Slovak authorities did not provide any further information regarding any subsequent exports of this materiel.
- 94 On 3 August 2017, the Government of South Africa responded to formal trace requests issued by CAR on 22 June 2016 and 20 June 2017. This response confirms that the South African National Defence Force (SANDF) purchased RF-7MA rounds with lot number ((10))-04-14 from the Bulgarian company Arsenal JSCo.
- 95 Personnel involved with the flight confirmed to CAR investigators that the flight carried munitions with a net explosive weight exceeding 11,000 kg (hazard class 1.1F), loaded in Burgas; a further 144 packages of ammunition weighing more than 98,000 kg (hazard class 1.1F and 1.2E) were loaded in Bratislava.
- 96 Aggregated data was provided by a confidential aviation source.
- 97 Sands and Maayeh (2016). The article details how weapons intended for Syrian non-state armed groups were transferred to a military operations command centre in Amman, Jordan, then on to a Syrian middleman, and via Lejat-based Bedouin traders to IS forces fighting in Al Hasakah, where CAR documented the items.
- 98 Telephone and email correspondence with personnel involved in the flight, 18 January 2017.
- 99 Telephone interview with a Cargo Airline representative, 19 January 2017.
- 100 Telephone interview with European air traffic control staff, 18 January 2017. To comply with European flight planning rules, aircraft must file flight plans stating their next destination. In this case, the aircraft should either have declared Tabuk as the next destination, or listed it as an 'alternative' and then requested a diversion to Tabuk en route.
- 101 Telephone interview with a Cargo Airline representative, 19 January 2017.
- 102 Telephone interview with a Cargo Airline representative, 19 January 2017.
- 103 Based on aircraft logbook sheets for flight numbers TZS571 (Bratislava–Tabuk) and TZS572 (Tabuk–Amman) dated 19 August 2014.
- 104 On 17 August 2016, the Government of the Republic of Bulgaria responded promptly to a formal trace request issued by CAR on 18 July 2016. This response confirms that: 1) the Bulgarian company VMZ JSCo. manufactured the 40 mm PG-7VT rounds with lot number 1-13-((11)), subject to CAR's trace request; and 2) VMZ JSCo. sold the rounds to three Bulgarian defence export companies (unspecified in Bulgaria's response). Bulgarian authorities subsequently issued export licenses (exporters unspecified) for delivery to three end-users: a) In 2014, the Bulgarian Interministerial Commission for Export Control and Non-Proliferation of WMD granted two export licenses (to an unspecified exporter) for the export of part of the consignment to the Ministry of Defence of France. The exporter presented an original end-user certificate, issued by the Ministry of Defence of France, with the export licence applications. The exports were realised in July 2014 and January 2016 (circumstances unspecified). The Ministry of Defence of France issued delivery verification certificates dated 25 June 2014 and 25 January 2016, respectively. b) In 2013, the Bulgarian Interministerial Commission for Export Control and Non-Proliferation of WMD granted an export licence (to an unspecified exporter) for the export of

part of the consignment to the Ministry of Defence of the Islamic Republic of Mauritania. The exporter presented an original end-user certificate, issued by the Ministry of Defence of Mauritania, with the export licence application. The export was realised on 28 September 2013 from Plovdiv Airport, Bulgaria, to Nouakchott Airport, Mauritania. The Ministry of Defence of Mauritania issued a delivery verification certificate dated 28 September 2013. c) In 2013, the Bulgarian Interministerial Commission for Export Control and Non-Proliferation of WMD granted an export licence (to an unspecified exporter) for the export of part of the consignment to the United States Department of the Army. The export was realised on 20 November 2013, to Ramstein Air Base, Germany. The United States Department of the Army issued a delivery verification certificate dated 28 May 2014.

- 105 On 26 April 2017, the Government of the Republic of Bulgaria responded promptly to a formal trace request issued by CAR on 14 February 2017. This response confirms that: 1) VMZ JSCo manufactured the PG-7VM rounds with lot number 1-14-((11)), subject to CAR's trace request; 2) VMZ JSCo sold the rounds to Bulgarian companies licenced to trade in military goods and; 3) Bulgarian authorities issued licences for the export of this materiel to:
- a) [End-user], Serbia (licence issued in 2014);
 - b) [End-user], United States of America (licence issued in 2015). The export was realised on 6 June 2016 from Burgas, Bulgaria, to Galveston, United States of America.
- 106 On 28 April 2017, a United States based company that specialises in military reproduction and weapon replicas, responded to a formal trace request issued by CAR on 28 April 2017. This company confirmed that it purchased 5,000 PG-7VM 40 mm rockets with lot number ((11))-1-14 from Bulgaria. The company confirmed that the shipment arrived in port on 29 June 2016. The company further stated that these goods were ordered for training purposes and would not be exported by the company.
- 107 On 25 May 2017, the Government of the Republic of Serbia responded promptly and comprehensively to a formal trace request issued by CAR on 28 April 2017. This response confirms that: 1) [End-user], Serbia, imported 960 PG-7VM 40 mm rockets with lot number 11-1-14 from Bulgaria under import licence number 000749 of 23 January 2014 and end-user certificate number 520/3000/04 of 18 August 2013, for onward export to the Ministry of National Defence and Veterans of the Republic of Burundi, the declared end-user; 2) [Broker], Costa Rica, brokered the purchase of the aforementioned materiel on behalf of the end-user; 3) a Bulgarian company delivered the consignment to the Gradina Customs Office, Serbia, on 2 April 2014; 4) the consignment was then forwarded to the Belgrade Airport Customs Office; 5) The Cargo Airline company, Georgia, shipped the consignment from Belgrade Airport, Serbia, to Bujumbura Airport, Burundi, on 4 April 2014, under a flight approval and air waybill (number 990-31280011) issued by the Directorate of the Civil Aviation of the Republic of Serbia; and 6) the Ministry of National Defence and Veterans of the Republic of Burundi issued a delivery verification certificate (DVC) dated 28 January 2015, to the Ministry of Trade, Telecommunications and Tourism of the Republic of Serbia. The Serbian authorities included copies of the air waybill and DVC in their response to CAR.
- 108 In addition, a CAR field investigation team documented an RHEAT-9MA 73 mm rocket bearing the same lot number—((10)) 03 10—in the holdings of the non-state armed group Sudan People's Liberation Army–North in Blue Nile, Sudan, on 12 February 2017.
- 109 ShaamNetwork (2013).
- 110 The five battles are the siege of Kobane (September 2014–January 2015); the second battle of Tikrit (March–April 2015); the western Al Hasakah offensive (May 2015); the third battle of Fallujah (May–June 2016); and the battle of Mosul (October 2016–July 2017).
- 111 Each series comprises rifles whose serial numbers start with the same letter or letters, and which differ by less than 10,000.

- 112 CAR (2016a).
- 113 Council of the EU (2017).
- 114 CAR (2016a, pp. 15–16).
- 115 CAR (2016a, p. 16).
- 116 On 19 September 2016, Metkim Kimyevi Maddeler Ltd. Şti. responded to a formal trace request issued by CAR on 14 July 2016. The company confirmed that it has imported aluminium paste for civilian use since 1980. In its response to CAR, Metkim Kimyevi Maddeler Ltd. Şti. included a letter from the Turkish Ministry of Customs and Trade to distributors, dated 2 July 2015, prohibiting the export of certain goods to Syria.
- 117 An international standard maintained by the World Customs Organization, the HS classifies traded products. The abovementioned letter from the Turkish Ministry of Customs and Trade prohibits the export to Syria of goods corresponding to HS codes 320710, 320730, 760310, and certain goods under HS code 321290. These codes correspond to the following goods, as listed in UN COMTRADE (n.d.):
- 320710: Tanning or dyeing extracts; tannins and their derivatives; dyes, pigments and other colouring matter; paints and varnishes; putty and other mastics; inks.
- Prepared pigments, prepared opacifiers and prepared colours, vitrifiable enamels and glazes, engobes (slips), liquid lustres and similar preparations, of a kind used in the ceramic, enamelling or glass industry; glass frit and other glass, in the form of powder, granules or flakes.
- Prepared pigments, prepared opacifiers, prepared colours and similar preparations.
- 320730: Tanning or dyeing extracts; tannins and their derivatives; dyes, pigments and other colouring matter; paints and varnishes; putty and other mastics; inks.
- Prepared pigments, prepared opacifiers and prepared colours, vitrifiable enamels and glazes, engobes (slips), liquid lustres and similar preparations, of a kind used in the ceramic, enamelling or glass industry; glass frit and other glass, in the form of powder, granules or flakes.
- Liquid lustres and similar preparations.
- 321290: Tanning or dyeing extracts; tannins and their derivatives; dyes, pigments and other colouring matter; paints and varnishes; putty and other mastics; inks.
- Pigments (including metallic powders and flakes) dispersed in non-aqueous media, in liquid or paste form, of a kind used in the manufacture of paints (including enamels); stamping foils; dyes and other colouring matter put up in forms or packings for retail sale.
- Other.
- 760310: Aluminium and articles thereof.
- Aluminium powders and flakes.
- Powders of non-lamellar structure.
- 118 Data compiled from UN Comtrade (n.d.). The database has its limitations, as it may contain miscoded goods, lack specificity with respect to some custom codes, and reflect possible data censorship. CAR uses this data only in combination with field-based investigations to underline possible trends.
- 119 On 28 June, the company ATR Kimya (Turkey) responded to a formal trace request and communication issued by CAR on 22 April 2016. A CAR representative confirmed via telephone the following: 1) ATR Kimya sells raw pigment materials used for the paint and plastic industry; 2) the goods are produced in

China, India and Europe; 3) ATR Kimya exports these raw materials to only seven or eight countries; 4) since the situation in the Middle East has become hostile, the Turkish government has put the chemical sector under strict control; 4) ATR Kimya has not exported any goods to Iraq or Syria in the last two years (as of 28 June 2016) and; 5) the company is not in a position to trace the drums back to their intended end-users.

- 120 Data compiled from UN Comtrade (n.d.). HS code 310230 covers ‘Fertilisers; Mineral or chemical fertilisers, nitrogenous; Ammonium nitrate, whether or not in aqueous solution’.
- 121 Data compiled from UN Comtrade (n.d.). HS code 283421 covers ‘Inorganic chemicals; organic or inorganic compounds of precious metals, of rare-earth metals, of radioactive elements or of isotopes; Nitrites; nitrates; Nitrates; Of potassium’.
- 122 On 25 April 2016, the Turkish company Vitagro responded promptly to a formal trace request issued by CAR on 21 April 2016. In its response, the company confirmed that it had manufactured the bag of ammonium nitrate, the subject of CAR’s request, and that Vitagro only sells this type of product on the Turkish domestic market. Vitagro further stated that its customers are Turkish fertiliser dealers and distributors and that it has no knowledge as to how Islamic State acquired its product.
- 123 CAR (2016a, p. 16).
- 124 On 29 November 2016, Doktor Tarsa Inc. responded promptly to a formal trace request issued by CAR on 25 November 2016. This response confirms that: 1) Doktor Tarsa Inc. sold the bags of potassium nitrate, subject to CAR’s trace requests, on the Turkish domestic market; and 2) the company distributes potassium nitrate with the same lot numbers to many recipients. Doktor Tarsa Inc. encouraged CAR to launch an official request with the Turkish authorities in order to obtain information on the recipients of this material.
- 125 On 11 July 2016, the Turkish company Doktor Tarsa Inc. responded promptly to a formal trace request issued by CAR on 8 July 2016. This response confirms that: 1) Doktor Tarsa Inc. does not export potassium nitrate to either Iraq or Syria; 2) Doktor Tarsa Inc. sold the bag of potassium nitrate with lot number 18472, which was the subject of CAR’s request, on the Turkish domestic market; 3) all sales of potassium nitrate are submitted to the Turkish Ministry of Agriculture, and therefore the records documenting the sale of this item can be obtained from there; and 4) potassium nitrate that is intended for the Turkish domestic market is packaged differently to the potassium nitrate intended for export.
- On 27 July 2016, SQM Europe N.V., a partner of Doktor Tarsa Inc., stated that SQM Europe had not sold KNO₃ (potassium nitrate) directly to Iraq in 2015 or 2016. SQM Europe N.V. further confirmed that the packaging of the item in CAR’s trace request indicates that the item was specifically for the Turkish domestic market.
- 126 On 11 August, the company SIA URALCHEM Trading (Riga, Latvia) responded promptly to a formal trace request issued by CAR on 14 July 2016. This response confirms that: 1) SIA URALCHEM TRADING manufactured the 25 kg bag of potassium nitrate, subject to CAR’s request, in 2010; 2) in 2011, SIA URALCHEM sold a limited quantity of this product to Syria (prior to any unrest in the region), to a company registered in Hong Kong; 3) no sales were made to Syria after 2011 and SIA URALCHEM does not export this product to Iraq; 4) SIA URALCHEM last sold this type of product to Turkey (to a Turkish company that deals in water-soluble fertilizers) in early 2013; 5) currently, it only sells Monoammonium Phosphate (a product which cannot be used as a precursor to make explosives) to the Turkish market; 6) SIA URALCHEM confirmed that it usually sells its product to distributors and that checks are carried out to ensure that its products are sold to bona fide customers and; 7) it is impossible for SIA URALCHEM to limit the onward sale of its product once the item has passed to the buyer, as it does not have either the contractual instruments or practical means to enforce any such limits.

- 127 On 23 September, the company LTA – Legal and Tax Alliance – responded on behalf of its client Biolchim S.P.A to a formal trace request issued by CAR on 22 September 2016. This response confirms that: 1) Biolchim specialises in the production and commercialisation of fertilizers; 2) Biolchim sold and delivered the 25 kg bag of Hydrofert 15.5.30+3MgO, the subject of CAR’s request, to Green Land Est (Abu Niamah Bldg, Shmeisani - Sharif Nasir Bin Jaml St. Amman 11593 – Jordan), in August 2013; 3) Biolchim has sold its products to Green Land Est since 1998, which operates as a distributor of Biolchim products in Jordan; 4) The 25 kg bag was part of a formal order of 12,600 kg of Hydrofert 15.5.30+3MgO (sold to Green Land Est in 2013); 5) MSC maritime shipped the order to Green Land Est (in compliance with CFR Aqaba port, Jordan terms); and 6) Biolchim does not have any information regarding re-transfer of this product to third parties. LTA- Legal and Tax Alliance included copies of the commercial invoice, certificate of origin (legalised by the Italian Chamber of Commerce), certificates of analysis (for each supplied product), a bill of lading, a EUR.1 certificate, and the safety data sheets of the product in its response to CAR.
- 128 On 12 November 2016, Green Land Est responded promptly to a formal trace request issued by CAR on 10 November 2016. In its response Green Land Est stated: 1) in August 2013, Biolchim Co. Italy exported 12,600 kg of Hydrofert 15/5/30+3MgO fertilizer to Green Land Est, of which the item subject to CAR’s trace request was one; 2) Green Land Est received the shipment in September 2013; 3) Green Land Est sells the majority of this type of product in the Jordanian domestic market but sold 160 bags to an Iraqi dealer called [name redacted] (Baghdad, Iraq); 4) Green Land Est exported the 160 bags to [name redacted] in May 2014 with other agricultural products; and 5) Green Land Est has not made any other sales to Iraq and has never exported or sold products to Syria.
- 129 On 15 December 2016, Tereos Starch and Sweeteners responded promptly to a formal trace request issued by CAR on 25 November 2016. Tereos Starch and Sweeteners confirmed that it sold sorbitol with the same lot numbers that CAR documented to four companies: a) Sinerji, a Turkish company that specialises in distribution of food, health, paper, and textile starches within the country and acts as a Tereos distributor in the country; b) Kent, a chewing gum production facility based in Turkey; c) Ceremony, a Turkish confectionary manufacturer and; d) Animal Lovers, a Dutch pet food manufacturer. Tereos sold and shipped this materiel to end-user companies or distributors in eight transactions, under eight invoices: 1) Tereos shipped 640 bags of sorbitol with batch numbers F2D103601 and F2D113601 to Sinerji on 25 May 2015 from Antwerp, Belgium, to Gebze, Turkey, under an invoice dated 13 May 2015; 2) The company shipped 800 bags of sorbitol with batch numbers F2D103601 and F2D064601 to Kent on 13 May 2015 from Antwerp, Belgium, to Gebze, Turkey, under an invoice dated 8 May 2015; 3) The company shipped 1600 bags of sorbitol with batch numbers F2D103601, F2D101601 and F2D113601 to Kent on 11 May 2015 from Antwerp, Belgium, to Gebze, Turkey, under an invoice dated 30 April 2015; 4) Tereos shipped 5880 bags of sorbitol with batch numbers F2D068601, F2D069601, F2D070601, F2D071601, F2D072601 and F2D074601 to Ceremony on 30 April 2015 from Antwerp, Belgium, to Mersin, Turkey, under an invoice dated 9 April 2015; 5) The company shipped 840 bags of sorbitol with batch numbers F2D103611 and F2D067610 to Sinerji on 20 May 2015 from Antwerp, Belgium, to Gebze, Turkey, under an invoice dated 5 May 2015; 6) The company shipped 1600 bags of sorbitol with batch numbers F2D113601, F2D156601, F2D157601 and F2D158601 to Kent on 27 August 2015 from Antwerp, Belgium, to Gebze, Turkey, under an invoice dated 11 August 2015; 7) Tereos transferred 640 bags of sorbitol with batch numbers F2D103601, F2D099602, F2D108601 to Animal Lovers via road, under an invoice dated 12 May 2015; 8) The company transferred 1600 bags of sorbitol with batch numbers F2D103611, F2D033601, F2D117601 and F2D122601 to Kent on 26 June 2015 from Antwerp, Belgium, to Gebze, Turkey, under an invoice dated 12 June 2015. Tereos Starch and Sweeteners confirmed that it neither exports sorbitol to Iraq nor deals with any Iraqi entity and that all its products were exported in full compliance with international trade regulations. Tereos Starch and Sweeteners included copies of the relevant invoices and waybills in its response to CAR.
- 130 On 5 July 2017, Tereos Starch and Sweeteners responded promptly to a formal trace request issued by CAR on 8 June 2017. Tereos Starch and Sweeteners confirmed that it sold sorbitol with batch number F20193601, subject to CAR’s trace request, to two companies: a) Sinerji, a Turkish company that specialises in distribution of food, health, paper, and textile starches within Turkey and acts as a

Tereos distributor in the country (products are sold to Benison, Dubai, United Arab Emirates, which acts as a central purchasing agency on behalf of Sineiji); b) EuroSweets GmbH, a German company that manufactures sugar based liquids for the food and beverage industry. Tereos Starch and Sweeteners sold and delivered the sorbitol to the recipient companies in two transactions: 1) Tereos Starch and Sweeteners shipped 18 tons of sorbitol with batch number F20193601 to Sinerji on 4 November 2015 on board the MSC Belgium N.V., from Antwerp, Belgium, to Gebze, Turkey, under an invoice dated 28 August 2015 and a sea waybill dated 9 November 2015. The shipment was delivered to Sinerji on 9 December 2015; 2) Tereos Starch and Sweeteners sold one ton of sorbitol with batch number F20193601 to EuroSweets GmbH. Ziegler France SA transferred the batch to EuroSweets GmbH on 5 August 2015. Tereos Starch and Sweeteners confirmed that it neither exports sorbitol to Iraq nor deals with any Iraqi entity and that all its products were exported in full compliance with international trade regulations. Tereos Starch and Sweeteners included copies of the relevant invoices, waybills, health certificates and certificates of conformity in its response to CAR.

- 131 Through a source kept anonymous for security reasons, CAR later found the exact companies' names are Salah Aldeen Mahohi (صالح الدين محوي) and Ali Jamal Alshawi (علي جمال الشاوي). In reviewing bank transfer statements, CAR also found that for both transfers, a Turkish intermediary paid for the sorbitol on behalf of the two Syrian entities.
- 132 On 15 August 2017, Sinerji Gida Kimya Tekstil responded to a formal trace request issued by CAR on 21 December 2016. This response confirms that Sinerji Gida Kimya Tekstil exported the sorbitol with batch numbers F2D103611, F2D103601 and F2D113601, subject to CAR's trace request, to the Ale Cemal Elsavi company, Aleppo, Syria, in the following quantities:

- a) Batch F2D103611 - 18,025 kg
- b) Batch F2D103601 - 3,000 kg
- c) Batch F2D113601 - 7,975 kg

Sinerji Gida Kimya Tekstil transported the goods by lorry alongside 9,000 kg of sorbitol with batch numbers F2D065601, F2D067601, F2D075601, F2D072601 and F2D039602, (which were not documented by CAR) to the Oncupinar border, south of Kilis, Turkey, and north of Azez, Syria, under an export declaration dated 1 September 2015. From the border, the recipient, Ale Cemal Elsavi, organised collection and transfer of the goods to its facility in Aleppo, Syria. Sinerji Gida Kimya Tekstil cannot confirm if the goods were sold to a third party after it delivered the items to the Oncupinar border. The company confirmed that it had never sold any sorbitol product to Iraq.

On 15 August 2017, Sinerji Gida Kimya Tekstil responded to a formal trace request issued by CAR on 12 July 2017. This response confirms that: 1) Sinerji Gida Kimya Tekstil exported 18,000 kg of sorbitol with batch number F20193601, subject to CAR's trace request, to the Ali Salah Edin Muhyiy company (a sister company to Ale Cemal Elsavi), Aleppo, Syria, under an export declaration dated 22 December 2015; 2) Ali Salah Edin Muhyiy organised the transport of the goods alongside 22,000 kg of sorbitol with batch numbers F2D171601 and F2D253601 (which were not documented by CAR) and; 4) Sinerji Gida Kimya Tekstil confirmed that it has never sold any sorbitol product to Iraq.

- 133 CAR obtained this information from a phone number identification application and corroborated it with information obtained from anonymous Syrian sources. CAR tried to contact the individual linked to the phone numbers on 20 September 2017, without success.
- 134 On 9 August, the company Al Khaleej Sugar located in the United Arab Emirates (UAE) responded promptly to a formal trace request issued by CAR on 13 July 2016. This response confirms that: 1) Al Khaleej Sugar manufactured the 50 kg bag of sugar with lot number SF0189, subject to CAR's trace request, in the UAE in January 2015. 2) Al Khaleej Sugar sold items in this lot to the Ministry of Trade (MOT)/State Company for Foodstuff Trading, Baghdad, Iraq, under contract number 745 of 30

- December 2014; 3) Al Khaleej Sugar shipped the sugar on board the vessels MV ADVENTURER K (bills of lading dated 7 February 2015) and MV BASRAH (bills of lading dated 10 February 2015) to MOT, Um Qasr, Iraq. Al Khaleej Sugar included copies of the 'Certificate Independent Surveyor' and 'Inspection Certificate', issued by the inspection company Baltic Control Emirates LLC, in its response to CAR.
- 135 On 22 December 2016, the company Al Khaleej Sugar located in the United Arab Emirates (UAE) responded promptly to a formal trace request issued by CAR on 25 November 2016. This response confirms that: 1) Al Khaleej Sugar manufactured the 50 kg bag of sugar with lot number GC035, subject to CAR's trace request, in the UAE in September 2013. 2) Al Khaleej Sugar sold items in this lot to the Ministry of Trade (MOT)/State Company for Foodstuff Trading, Baghdad, Iraq, under contract number 651 of 27 August 2013; 3) Al Khaleej Sugar shipped the sugar on board the vessel MV PRIME (under bills of lading dated 25/09/2013) to MOT, Um Qasr, Iraq. Al Khaleej Sugar included copies of the 'Certificate Independent Surveyor' and 'Inspection Certificate', issued by the independent inspection company Bureau Veritas, in its response to CAR.
- 136 Chivers (2015).
- 137 The reaction formula is $\text{AlP} + 3 \text{H}_2\text{O} = \text{PH}_3 + \text{Al}(\text{OH})_3$. The reaction shows that aluminium phosphide plus water results in phosphine and an aluminium hydroxide residue.
- 138 Data compiled from WU (n.d.a).
- 139 Data compiled from WU (n.d.b) and averaged with each date prior from 10 to 19 May 2017 (WU, n.d.c).
- 140 CAR field investigation teams in Mosul at the time confirm rain frequently fell in the city in March and April 2017.
- 141 USNLM (n.d.).
- 142 On 16 October 2017, ELAchem SpA. responded promptly to a formal trace request issued by CAR on 13 October 2017. This response confirms that; 1) ELAchem s.r.l manufactured the Prepolymer with lot number DE26250574, the subject of CAR's request; 2) Prepolymer, a component of Polyurethane, is used to manufacture shoe soles and sandals; 3) ELAchem delivered the lot in question to Syria more than 10 years ago, from Genoa or Venice, Italy, to Lattakya, Syria. ELAchem s.r.l. included a copy of the technical data sheet in its response to CAR.
- 143 On 2 November 2017, BASF responded promptly to a formal trace request issued by CAR on 13 October 2017. This response confirms that: 1) BASF sold the drum of Lupranat T80A, subject to CAR's trace request, to Solvochem Holland BV (Solvochem), in 2012; 2) Solvochem sold the item to Hemn Group, a company that produces flexible foam for furniture and mattresses, based in Duhouk; 3) Hemn Group confirmed it received a complete delivery; 4) BASF stated that there are no foamers based in Tal Afar. According to Solvochem, the closest foamers to Duhouk are based in Baghdad (450km away from where CAR documented the drum); and 5) it is not possible to establish how the drum ended up in Tal Afar. Hemn Group additionally informed CAR that they occasionally lend this product to other companies and no records are kept of these transactions.
- 144 CAR (2016a, p. 19).
- 145 CAR (2016a, p. 18).
- 146 CAR (2016a, pp. 18–19).
- 147 On 15 March 2017, Karwanchi Group responded to a formal trace request issued by CAR on 23 December 2015. Karwanchi Group confirmed that it has no records of theft or losses of hydrogen peroxide, which

was the subject of CAR's trace request. Karwanchi Group confirmed that it uses hydrogen peroxide to sterilize its packaging and filling machine.

- 148 On 22 April 2016, CHT R. BEITLICH GMBH responded promptly to a formal trace request issued by CAR on 15 April 2016. This response confirms that: 1) the original content of the CHT drum with the serial number 20491+0000030006+ 1111140030+ 120, the subject of CAR's request, was TUBIPRINT BINDER CH 450, a chemical binder used for textile applications; 2) the item was shipped on 29 December 2014, from CHT Tekstil Kimya (the Turkish affiliate of CHT R. BEITLICH GMBH), Gaziantep, Turkey to the textile company, Matesa Tekstil Sanayi Ve Ticaret A.S., Kahramanmaraş, Turkey; 3) the item was part of a shipment of 20 drums of TUBIPRINT BINDER CH 450 delivered to Matesa; 4) according to CHT R. BEITLICH GMBH, Matesa uses the product for its own production and does not re-transfer to third parties; and 5) CHT Tekstil Kimya does not export this type of product to Iraq or Syria. CHT R. BEITLICH GMBH included a Material Safety Data Sheet (MSDS) of the product and the delivery note in its response.
- 149 On 20 April 2016, Erca Group Kimya San. Ve Tic. A.Ş responded promptly to a formal trace request issued by CAR on 15 April 2016. This response confirms that: 1) the Erca-manufactured drum seized from Islamic State forces near Ramadi, Iraq, the subject of CAR's request, originally contained Blancolux MST, an optical brightener used in the textile industry; 2) Erca Group Kimya San. Ve Tic. A.Ş only has one customer for this particular Blancolux product, a Turkish company called Matesa; 3) Matesa has purchased 112 Blancolux MST 120 kg drums from 2015 until present date (20 April 2016); 4) Matesa is the end-user for this product and no re-sale is possible and; 5) empty drums of this sort are given by Matesa to third parties in the region. Erca Group Kimya San. Ve Tic. A.Ş provided the delivery notes for the 112 drums and a safety data sheet and technical leaflet of the product in its response.
- On 11 July 2016, Erca Group Kimya San. Ve Tic. A.Ş confirmed that two Turkish companies, Ekomar and Sinan Keleş, collect empty drums of this sort from Matesa and that this is done with permission from the Turkish Ministry of Environment and Urban Affairs.
- 150 On 24 June 2016, the Belgian company Chemours Belgium responded to a formal trace request issued by CAR on 29 April 2016. This response confirms that: 1) in November 2014, Chemours Belgium manufactured the 455G-R1380 Roller Topcoat Pewter, batch 1411MP0041, subject to CAR's trace request, in its Mechelen factory, Belgium; 2) the product is used to manufacture non-stick frying pans; 3) Chemours Belgium sold this batch to the Turkish company Almesan Aluminyum Sanayi; 4) Chemours Turkey (the Turkish branch of Chemours Belgium) organised the billing and shipment of items to Almesan Aluminyum Sanayi; 5) Almesan Aluminyum Sanayi confirmed, via Chemours Belgium, that it never sells unused drums of 455G-R1380 Roller Topcoat Pewter and that it gives used or empty drums to local recycling companies; 6) Almesan further stated that it is unable to control how the recycling companies subsequently use the empty drums and; 7) in its response to CAR, Chemours Belgium provided relevant invoices for the sale of this batch of Roller Topcoat Pewter and the product's safety data sheet.
- 151 On 11 July 2016, Almesan Aluminyum Sanayi informed CAR that it primarily sells used drums to two recycling companies: Dinc Atik Yonemti San. Tic. Ltd. Sti. (Dilovasi Osb 4. Kisim D-2028 No:18 Gebze Kocaeli) and Vatan Varil San. Tic.Ltd.Sti. (Sekerpinar Mah. Defne Sok. No:14 Cayirova Kocaeli).
- 152 CAR (2016a, p. 21).
- 153 Nitromak Dyno Nobel, as noted in CAR (2016a), enforces a strict policy of distributing products only to licensed companies. The detonating cord in question was part of a shipment of spools received in June 2013 by Nitromak Dyno Nobel from Gulf Oil. In the seven months following receipt of the order, Nitromak Dyno Nobel supplied detonating cord to 71 customers. Nitromak Dyno Nobel strictly prohibits the making of any payment or engagement in any transaction that is in breach of any law or regulatory requirement relating to the implementation of sanction against any country, individual or entity, that has imposed by the United Nations or by any country with or in which it does business. Accordingly,

Nitromak Dyno Nobel does not export product of this type to Syria or Iraq. Additionally, Nitromak Dyno Nobel employees undertake continuous training to ensure awareness of and compliance with all applicable sanctions laws and company policies.

154 CAR (2016a, pp. 22–23).

155 CAR (2016a, p. 23).

156 CAR (2016a, pp. 21–24).

157 CAR (2016a, pp. 22–23).

158 CAR (2016a, p. 28).

159 CAR (2016a, pp. 26–29).

160 On 23 August 2017, DanChurchAid (DCA) responded promptly to a formal trace request issued by CAR on 27 July 2017. This response confirms that: 1) DCA stored explosives and detonators that it purchased for its Iraq operations in the camp of the Danish battalion in Iraq; 2) upon closing its office at the beginning of 2004, DCA donated this material to Danish Demining Group (DDG) and the materiel remained at the Danish camp; 3) in April 2004, the Danish forces requested that DDG remove the material and a control count was carried out by a DDG employee who identified eight km of detonating cord as missing. The cord was erroneously destroyed by the Danish armed forces and; 3) DDG moved the material to Camp Zubair, where UNMAS had access to storage facilities, which were not administered by DCA or DDG.

161 CAR (2016a, pp. 26–27).

162 CAR (2016a, pp. 31–32).

163 On 25 August 2016, after consultation via email and a visit by a CAR representative to STMicroelectronics, the company provided evidence that the 22 STlabelled transistors, documented by CAR staff to date, are counterfeit.

164 On 26 February, Shindengen Electric Manufacturing Co. Ltd. informed CAR that the ‘the microcontrollers in question are counterfeit products. Shindengen neither manufactured the products, nor was involved in any way in the supply chain.’ Having commissioned an independent investigation, CAR concludes that the items are Microchip PIC16f1827 microcontrollers. Unknown parties removed the original information printed onto these microcontrollers by abrasion and fraudulently applied the name ‘Shindengen’ and the part number ‘MCZ3001DB’ to each. Shindengen did not manufacture the products and was not involved, in any capacity, in their supply. See CAR (2016a, p. 33).

165 On 7 July 2016, Microsoft Corporation responded promptly to a formal trace request issued by CAR on 30 March 2016. In its response, Microsoft Corporation stated that the RH-18 mobile telephone with IMEI number 35254300/415174/5, subject to CAR’s trace request, might be counterfeit. The device documented by CAR bears a Nokia 1100 label but the code and IMEI number refer to a Nokia 2300 Model mobile telephone that was shipped to China on 27 April 2004.

166 CAR (2016a, pp. 41–43).

167 On 27 June 2016, Hawk Freight Logistics responded to a formal trace request issued by CAR on 7 January 2016. This response confirms that: 1) Nokia manufactured the cell phone with IMEI number 357134/06/881894/3, the subject of CAR’s request; 2) it was part of a consignment of 15,000 Nokia/ Microsoft phones consigned to Brightpoint M.E. under Nokia’s invoice number 500224773 of 4 November 2014; 3) Nokia shipped the consignment from Hanoi, Vietnam, to Dubai, United Arab

Emirates, on Malaysian Airlines flight number MH 6053; 4) the consignment was delivered to the Hawk Freight Logistics warehouse on 17 November 2014; 5) Hawk Freight Logistics checked the shipment into its warehouse and segregated the items to be sent to Brightpoint M.E.'s clients; delivering 3,000 phones to AZ Logistics (DAFZA DXB) and 12,000 phones to ORG Logistics (DAFZA DXB); and 6) Hawk Freight Logistics cannot confirm to whom it delivered the unit with IMEI number 357134/06/881894/3. Hawk Freight Logistics included relevant delivery notes, a goods receipt note (GRN), transport documents, invoices, and airway bills in its response to CAR.

168 On 7 July 2016, Microsoft Corporation responded promptly to a formal trace request issued by CAR on 30 March 2016. In its response, Microsoft Corporation provided sales documents for the Nokia RH-130 mobile telephone, with IMEI number 357290/05/079642/0, subject to CAR's trace request. This documentation confirms that Derinton International FZE, United Arab Emirates, purchased the item on 13 May 2013 for delivery to Fastlink, Iraq. The mobile telephone with IMEI number 357290/05/079642/0 was part of a shipment of 7,300 telephones with a scheduled delivery date of 3 July 2013.

169 CAR (2016a, p. 42).

170 Yousaf and Adkin (2001).

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ABBREVIATIONS

ATGW	Anti-tank guided weapon
CAR	Conflict Armament Research
DCA	DanChurchAid
DDG	Danish Demining Group
EU	European Union
EUC	End-user certificate
HME	Homemade explosive
HS	Harmonized Commodity Description and Coding Systems
IED	Improvised explosive device
IIC	International import certificate
IS	Islamic State
Metkim	Metkim Kimyevi Maddeler
TIC	Toxic industrial chemical
YPG	Yekîneyên Parastina Gel (People's Protection Units)

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SECTION 4

APPENDICES



APPENDIX 1

Table 3
Quantities of weapons documented in Iraq and Syria, per types

Type of weapons	IRAQ			SYRIA			IRAQ & SYRIA	
	Qty	Percentage	Regional %	Qty	Percentage	Regional %	Qty	Percentage
7.62 x 39 mm assault rifles	867	68.27%	67.00%	427	75.98%	33.00%	1294	70.63%
7.62 x 54R mm medium machine guns	127	10.00	74.71	43	7.65	25.29	170	9.28
7.62 x 39 mm light machine guns	138	10.87	95.83	6	1.07	4.17	144	7.86
40 mm launchers (RPG-7 type)	49	3.86	61.25	31	5.52	38.75	80	4.37
5.56 x 45 mm assault rifles/ carbines	17	1.34	62.96	10	1.78	37.04	27	1.47
12 gauge shotguns	2	0.16	9.09	20	3.56	90.91	22	1.20
7.62 x 51 mm automatic rifles	8	0.63	80.00	2	0.36	20.00	10	0.55
12.7 x 108 mm heavy machine guns	9	0.71	100.00	0	0.00	0.00	9	0.49
7.62 x 54R mm sniper rifles	6	0.47	75.00	2	0.36	25.00	8	0.44
7.62 x 51 mm medium machine guns	5	0.39	62.50	3	0.53	37.50	8	0.44
9 x 19 mm semi-automatic pistols	3	0.24	42.86	4	0.71	57.14	7	0.38
14.5 x 114 mm heavy machine guns	6	0.47	100.00	0	0.00	0.00	6	0.33
9 x 19 mm submachine guns	5	0.39	83.33	1	0.18	16.67	6	0.33
72.5 mm rocket launchers (RPG-22 type)	1	0.08	16.67	5	0.89	83.33	6	0.33

(continued)

Type of weapons	IRAQ			SYRIA			IRAQ & SYRIA	
	Qty	Percentage	Regional %	Qty	Percentage	Regional %	Qty	Percentage
84 mm recoilless guns	4	0.31	100.00	0	0.00	0.00	4	0.22
60 mm light mortars	3	0.24	100.00	0	0.00	0.00	3	0.16
12.7 x 99 mm heavy machine guns	2	0.16	66.67	1	0.18	33.33	3	0.16
7.62 x 54R mm bolt-action rifles	0	0.00	0.00	3	0.53	100.00	3	0.16
66 mm rocket launchers	3	0.24	100.00	0	0.00	0.00	3	0.16
40 x 46 mm grenade launchers	2	0.16	66.67	1	0.18	33.33	3	0.16
120 mm heavy mortars	2	0.16	100.00	0	0.00	0.00	2	0.11
64 mm rocket launchers (RPG-18 type)	2	0.16	100.00	0	0.00	0.00	2	0.11
73 mm recoilless guns (SPG-9 type)	2	0.16	100.00	0	0.00	0.00	2	0.11
81 mm medium mortars	2	0.16	100.00	0	0.00	0.00	2	0.11
68 mm rocket launchers	2	0.16	100.00	0	0.00	0.00	2	0.11
7.62 x 39 mm self-loading rifles	1	0.08	100.00	0	0.00	0.00	1	0.05
7.7 x 56R mm bolt-action rifles	1	0.08	100.00	0	0.00	0.00	1	0.05
7.92 x 57 mm bolt-action rifles	1	0.08	100.00	0	0.00	0.00	1	0.05
7.62 x 39 mm sniper rifles	0	0.00	0.00	1	0.18	100.00	1	0.05
72 mm rocket launchers (RPG-26 type)	0	0.00	0.00	1	0.18	100.00	1	0.05
90 mm rocket launchers	0	0.00	0.00	1	0.18	100.00	1	0.05
TOTAL	1270	100.00	69.32	562	100.00	30.68	1832	100.00

Table 4
Quantities of weapons documented in Iraq and Syria, per country of manufacture

Manufacturing country	IRAQ			SYRIA			IRAQ & SYRIA	
	Qty	Percentage	Regional %	Qty	Percentage	Regional %	Qty	Percentage
China	683	53.78	85.70	114	20.28	14.30	797	43.50
Romania	153	12.05	68.92	69	12.28	31.08	222	12.12
Russia	47	3.70	26.86	128	22.78	73.14	175	9.55
Hungary	66	5.20	50.00	66	11.74	50.00	132	7.21
Bulgaria	52	4.09	53.61	45	8.01	46.39	97	5.29
Serbia	64	5.04	86.49	10	1.78	13.51	74	4.04
Germany	38	2.99	58.46	27	4.80	41.54	65	3.55
Iraq	41	3.23	70.69	17	3.02	29.31	58	3.17
Unknown	21	1.65	52.50	19	3.38	47.50	40	2.18
Poland	10	0.79	26.32	28	4.98	73.68	38	2.07
Czech Republic	37	2.91	100.00	0	0.00	0.00	37	2.02
United States	23	1.81	69.70	10	1.78	30.30	33	1.80
Iran	11	0.87	64.71	6	1.07	35.29	17	0.93
Turkey	5	0.39	31.25	11	1.96	68.75	16	0.87
United Kingdom	5	0.39	83.33	1	0.18	16.67	6	0.33
Belgium	1	0.08	20.00	4	0.71	80.00	5	0.27
Pakistan	5	0.39	100.00	0	0.00	0.00	5	0.27
North Korea	2	0.16	50.00	2	0.36	50.00	4	0.22
Egypt	3	0.24	100.00	0	0.00	0.00	3	0.16
Croatia	0	0.00	0.00	2	0.36	100.00	2	0.11
Austria	1	0.08	50.00	1	0.18	50.00	2	0.11
Albania	1	0.08	100.00	0	0.00	0.00	1	0.05
Bosnia and Herzegovina	0	0.00	0.00	1	0.18	100.00	1	0.05
Italy	1	0.08	100.00	0	0.00	0.00	1	0.05
Spain	0	0.00	0.00	1	0.18	100.00	1	0.05
TOTAL	1270	100.00	69.32	562	100.00	30.68	1832	100.00

Table 5
Quantities of weapons documented in Iraq and Syria, per decades of manufacture

Decade of manufacture	IRAQ		SYRIA		IRAQ & SYRIA	
	Qty	Percentage	Qty	Percentage	Qty	Percentage
1930-1939	0	0.00	2	0.71	2	0.23
1940-1949	2	0.34	1	0.36	3	0.35
1950-1959	1	0.17	8	2.85	9	1.04
1960-1969	37	6.35	17	6.05	54	6.25
1979-1979	64	10.98	100	35.59	164	18.98
1980-1989	206	35.33	112	39.86	318	36.81
1990-1999	32	5.49	14	4.98	46	5.32
2000-2009	233	39.97	21	7.47	254	29.40
2010-	8	1.37	6	2.14	14	1.62
TOTAL	583	100.00	281	100.00	864	100

Table 6
Post-2000 weapons documented in Iraq and Syria, per country of manufacture

Post-2000 manufacture	IRAQ			SYRIA			IRAQ & SYRIA	
	Qty	Percentage	Regional %	Qty	Percentage	Regional %	Qty	Percentage
Bulgaria	16	6.64	53.33	14	51.85	46.67	30	11.19
Romania	21	8.71	84.00	4	14.81	16.00	25	9.33
China	191	79.25	99.48	1	3.70	0.52	192	71.64
Iran	0	0.00	0.00	4	14.81	100.00	4	1.49
Serbia	4	1.66	100.00	0	0.00	0.00	4	1.49
Iraq	4	1.66	80.00	1	3.70	20.00	5	1.87
Unknown	3	1.24	100.00	0	0.00	0.00	3	1.12
Turkey	0	0.00	0.00	2	7.41	100.00	2	0.75
Pakistan	2	0.83	100.00	0	0.00	0.00	2	0.75
Russia	0	0.00	0.00	1	3.70	100.00	1	0.37
TOTAL	241	100.00	89.93	27	100.00	10.07	268	100.00

Table 7
Quantities of ammunition documented in Iraq and Syria, by type

Type	IRAQ			SYRIA			IRAQ & SYRIA	
	Qty	Percentage	Regional %	Qty	Percentage	Regional %	Qty	Percentage
Fuzes	55	0.19	50.93	53	0.45	49.07	108	0.26
Unknown	3	0.01	75.00	1	0.01	25.00	4	0.01
Grenades	30	0.10	46.15	35	0.30	53.85	65	0.16
Hand grenades	23	0.08	39.66	35	0.30	60.34	58	0.14
Rifle grenades	7	0.02	100.00	0	0.00	0.00	7	0.02
Mortar projectiles	530	1.82	93.64	36	0.30	6.36	566	1.38
60 mm	380	1.30	98.70	5	0.04	1.30	385	0.94
81 mm	56	0.19	67.47	27	0.23	32.53	83	0.20
82 mm	67	0.23	94.37	4	0.03	5.63	71	0.17
120 mm	27	0.09	100.00	0	0.00	0.00	27	0.07
Unguided aircraft bombs	1	0.00	100.00	0	0.00	0.00	1	0.00
Landmines	2	0.01	7.41	25	0.21	92.59	27	0.07
Air-to-air missiles	2	0.01	100.00	0	0.00	0.00	2	0.00
Man-portable air-defence systems (MANPADS) components	12	0.04	92.31	1	0.01	7.69	13	0.03
Tubes	7	0.02	100.00	0	0.00	0.00	7	0.02
Batteries	1	0.00	50.00	1	0.01	50.00	2	0.00
Gripstocks	1	0.00	100.00	0	0.00	0.00	1	0.00
Missiles	3	0.01	100.00	0	0.00	0.00	3	0.01
Small-calibre cartridge ammunition	26802	91.89	70.17	11394	96.43	29.83	38196	93.20
.303	251	0.86	100.00	0	0.00	0.00	251	0.61
.30-06	106	0.36	100.00	0	0.00	0.00	106	0.26
.308	0	0.00	0.00	1	0.01	100.00	1	0.00
9 x 19 mm	55	0.19	78.57	15	0.13	21.43	70	0.17
12.7 x 108 mm	3852	13.21	96.66	133	1.13	3.34	3985	9.72
12.7 x 99 mm	4268	14.63	98.73	55	0.47	1.27	4323	10.55
12 gauge	4	0.01	80.00	1	0.01	20.00	5	0.01
14.5 x 114 mm	4258	14.60	91.55	393	3.33	8.45	4651	11.35
5.45 x 39 mm	1	0.00	1.22	81	0.69	98.78	82	0.20
5.56 x 45 mm	156	0.53	55.12	127	1.07	44.88	283	0.69

(continued)

Type	IRAQ			SYRIA			IRAQ & SYRIA	
	Qty	Percentage	Regional %	Qty	Percentage	Regional %	Qty	Percentage
7.62 x 39 mm	8734	29.94	66.45	4410	37.32	33.55	13144	32.07
7.62 x 51 mm	142	0.49	82.56	30	0.25	17.44	172	0.42
7.5 x 54 mm	1	0.00	100.00	0	0.00	0.00	1	0.00
7.92 x 57 mm	10	0.03	100.00	0	0.00	0.00	10	0.02
7.62 x 54R mm	4964	17.02	44.67	6148	52.03	55.33	11112	27.11
Medium-calibre cartridge ammunition	179	0.61	83.64	35	0.30	16.36	214	0.52
23 x 152 mm	86	0.29	71.67	34	0.29	28.33	120	0.29
30 x 165 mm	1	0.00	100.00	0	0.00	0.00	1	0.00
57 x 348SR mm	65	0.22	98.48	1	0.01	1.52	66	0.16
Spin-stabilised grenades	27	0.09	100.00	0	0.00	0.00	27	0.07
Artillery ammunition	96	0.33	84.96	17	0.14	15.04	113	0.28
120 mm	2	0.01	66.67	1	0.01	33.33	3	0.01
122 mm	8	0.03	100.00	0	0.00	0.00	8	0.02
125 mm	2	0.01	100.00	0	0.00	0.00	2	0.00
130 mm	4	0.01	21.05	15	0.13	78.95	19	0.05
100 mm	5	0.02	100.00	0	0.00	0.00	5	0.01
155 mm	23	0.08	100.00	0	0.00	0.00	23	0.06
85 mm	42	0.14	97.67	1	0.01	2.33	43	0.10
76 mm	10	0.03	100.00	0	0.00	0.00	10	0.02
Rockets	1233	4.23	90.20	134	1.13	9.80	1367	3.34
Shoulder-launched	718	2.46	84.87	128	1.08	15.13	846	2.06
105 mm	3	0.01	100.00	0	0.00	0.00	3	0.01
40 mm	623	2.14	83.29	125	1.06	16.71	748	1.83
90 mm	91	0.31	96.81	3	0.03	3.19	94	0.23
44 mm	1	0.00	100.00	0	0.00	0.00	1	0.00
Surface-to-surface	500	1.71	98.81	6	0.05	1.19	506	1.23
73 mm	498	1.71	99.80	1	0.01	0.20	499	1.22
107 mm	2	0.01	66.67	1	0.01	33.33	3	0.01
122 mm	0	0.00	0.00	4	0.03	100.00	4	0.01
Air-to-surface	15	0.05	100.00	0	0.00	0.00	15	0.04
55 mm	2	0.01	100.00	0	0.00	0.00	2	0.00

(continued)

Type	IRAQ			SYRIA			IRAQ & SYRIA	
	Qty	Percentage	Regional %	Qty	Percentage	Regional %	Qty	Percentage
68 mm	10	0.03	100.00	0	0.00	0.00	10	0.02
70 mm	2	0.01	100.00	0	0.00	0.00	2	0.00
80 mm	1	0.00	100.00	0	0.00	0.00	1	0.00
Medium-calibre recoilless ammunition	59	0.20	44.70	73	0.62	55.30	132	0.32
40 mm	59	0.20	44.70	73	0.62	55.30	132	0.32
Large-calibre recoilless ammunition	114	0.39	97.44	3	0.03	2.56	117	0.29
73 mm	97	0.33	98.98	1	0.01	1.02	98	0.24
82 mm	22	0.08	95.65	1	0.01	4.35	23	0.06
106 mm	0	0.00	0.00	1	0.01	100.00	1	0.00
Submunitions	0	0.00	0.00	2	0.02	100.00	2	0.00
TOTAL	29168	100.00	71.17	11816	100.00	28.83	40984	100.00

Includes primary propelling charges

Table 8
Quantities of ammunition documented in Iraq and Syria, per country of manufacture

Countries of manufacture	IRAQ			SYRIA			IRAQ & SYRIA	
	Qty	Percentage	Regional %	Qty	Percentage	Regional %	Qty	Percentage
Russia	7732	26.51	73.95	2724	23.05	26.05	10456	25.51
China	5377	18.43	51.52	5060	42.82	48.48	10437	25.47
Romania	4631	15.88	85.25	801	6.78	14.75	5432	13.25
United States	2336	8.01	94.00	149	1.26	6.00	2485	6.06
Bulgaria	1477	5.06	81.24	341	2.89	18.76	1818	4.44
Kyrgyzstan	395	1.35	29.63	938	7.94	70.37	1333	3.25
Serbia	1109	3.80	91.58	102	0.86	8.42	1211	2.95
Turkey	1011	3.47	91.16	98	0.83	8.84	1109	2.71
Syria	114	0.39	14.14	692	5.86	85.86	806	1.97
Iraq	707	2.42	88.71	90	0.76	11.29	797	1.94
Iran	717	2.46	82.89	148	1.25	17.11	865	2.11
South Korea	675	2.31	99.85	1	0.01	0.15	676	1.65

(continued)

Countries of manufacture	IRAQ			SYRIA			IRAQ & SYRIA	
	Qty	Percentage	Regional %	Qty	Percentage	Regional %	Qty	Percentage
Ukraine	541	1.85	86.84	82	0.69	13.16	623	1.52
Bosnia and Herzegovina	572	1.96	94.70	32	0.27	5.30	604	1.47
Belgium	560	1.92	99.47	3	0.03	0.53	563	1.37
Czech Republic	233	0.80	55.74	185	1.57	44.26	418	1.02
North Korea	126	0.43	47.01	142	1.20	52.99	268	0.65
Slovakia	250	0.86	99.21	2	0.02	0.79	252	0.61
Unknown	158	0.54	73.83	56	0.47	26.17	214	0.52
Pakistan	165	0.57	95.93	7	0.06	4.07	172	0.42
Sudan	55	0.19	52.88	49	0.41	47.12	104	0.25
Germany	37	0.13	43.02	49	0.41	56.98	86	0.21
Albania	21	0.07	39.62	32	0.27	60.38	53	0.13
Poland	27	0.09	75.00	9	0.08	25.00	36	0.09
Croatia	45	0.15	95.74	2	0.02	4.26	47	0.11
Sweden	36	0.12	100.00	0	0.00	0.00	36	0.09
Hungary	16	0.05	51.61	15	0.13	48.39	31	0.08
France	17	0.06	94.44	1	0.01	5.56	18	0.04
United Kingdom	11	0.04	100.00	0	0.00	0.00	11	0.03
Spain	6	0.02	100.00	0	0.00	0.00	6	0.01
Egypt	1	0.00	20.00	4	0.03	80.00	5	0.01
Italy	2	0.01	100.00	0	0.00	0.00	2	0.00
Australia	1	0.00	100.00	0	0.00	0.00	1	0.00
Greece	0	0.00	0.00	1	0.01	100.00	1	0.00
Israel	1	0.00	100.00	0	0.00	0.00	1	0.00
Macedonia	0	0.00	0.00	1	0.01	100.00	1	0.00
India	2	0.01	100.00	0	0.00	0.00	2	0.00
Mexico	1	0.00	100.00	0	0.00	0.00	1	0.00
Portugal	3	0.01	100.00	0	0.00	0.00	3	0.01
TOTAL	29168	100.00	71.17	11816	100.00	28.83	40984	100.00

Table 9
Post-2010 ammunition documented in Iraq and Syria, per manufacturing country and per year of manufacture

Manufacturing country	IRAQ									
	2010	2011	2012	2013	2014	2015	2016	TOTAL	Percentage	Regional %
Russia	601	1	1	50	123	77	1	854	17.95	55.10
Romania	986	195	0	15	199	119	2	1516	31.86	99.28
United States	103	3	6	404	402	2	0	920	19.34	99.89
Bulgaria	135	279	25	1	26	35	35	536	11.27	87.87
China	23	7	0	3	134	113	31	311	6.54	46.63
Iran	1	2	32	25	115	89	143	407	8.55	90.65
Bosnia	0	0	0	0	104	1	0	105	2.21	100.00
Czech Republic	15	0	0	0	0	0	0	15	0.32	30.61
Sudan	1	1	2	6	1	2	0	13	0.27	30.23
Syria	6	0	0	1	0	0	0	7	0.15	26.92
South Korea	0	0	0	0	25	1	0	26	0.55	100.00
Ukraine	0	0	0	0	22	0	0	22	0.46	91.67
Turkey	0	0	0	1	0	0	0	1	0.02	6.25
Unknown	0	1	0	1	10	2	0	14	0.29	100.00
Serbia	8	0	0	0	0	0	0	8	0.17	88.89
Kyrgyztan	0	0	0	0	1	0	0	1	0.02	50.00
Italy	0	0	1	0	0	0	0	1	0.02	100.00
Pakistan	0	0	0	1	0	0	0	1	0.02	100.00
TOTAL	1879	489	67	508	1162	441	212	4758	100.00	78.77

SYRIA										IRAQ & SYRIA	
2010	2011	2012	2013	2014	2015	2016	TOTAL	Percentage	Regional %	Qty	Percentage
112	80	2	293	209	0		696	54.29	44.90	1550	25.66
10	0	1	0	0	0		11	0.86	0.72	1527	25.28
1	0	0	0	0	0		1	0.08	0.11	921	15.25
60	10	1	0	3	0		74	5.77	12.13	610	10.10
309	24	21	2	0	0		356	27.77	53.37	667	11.04
0	8	20	13	1	0		42	3.28	9.35	449	7.43
0	0	0	0	0	0		0	0.00	0.00	105	1.74
34	0	0	0	0	0		34	2.65	69.39	49	0.81
6	1	9	13	1	0		30	2.34	69.77	43	0.71
12	0	0	7	0	0		19	1.48	73.08	26	0.43
0	0	0	0	0	0		0	0.00	0.00	26	0.43
2	0	0	0	0	0		2	0.16	8.33	24	0.40
0	6	3	2	4	0		15	1.17	93.75	16	0.26
0	0	0	0	0	0		0	0.00	0.00	14	0.23
1	0	0	0	0	0		1	0.08	11.11	9	0.15
1	0	0	0	0	0		1	0.08	50.00	2	0.03
0	0	0	0	0	0		0	0.00	0.00	1	0.02
0	0	0	0	0	0		0	0.00	0.00	1	0.02
548	129	57	330	218	0		1282	100.00	21.23	6040	100.00

Table 10
Quantities of 40 mm rockets documented in Iraq and Syria, per country of manufacture

Countries of manufacture	IRAQ			SYRIA			IRAQ & SYRIA	
	Qty	Percentage	Regional %	Qty	Percentage	Regional %	Qty	Percentage
China	213	34.19	93.42	15	12.00	6.58	228	30.48
Bulgaria	111	17.82	74.50	38	30.40	25.50	149	19.92
Iran	178	28.57	96.74	6	4.80	3.26	184	24.60
Russia	50	8.03	62.50	30	24.00	37.50	80	10.70
Romania	26	4.17	63.41	15	12.00	36.59	41	5.48
Unknown	17	2.73	62.96	10	8.00	37.04	27	3.61
Poland	17	2.73	80.95	4	3.20	19.05	21	2.81
Iraq	7	1.12	58.33	5	4.00	41.67	12	1.60
Ukraine	2	0.32	100.00	0	0.00	0.00	2	0.27
Egypt	0	0.00	0.00	1	0.80	100.00	1	0.13
Sudan	2	0.32	66.67	1	0.80	33.33	3	0.40
TOTAL	623	100.00	83.29	125	100.00	16.71	748	100.00

Table 11
Quantities of 73 mm rockets documented in Iraq and Syria, per country of manufacture

Countries of manufacture	IRAQ	
	Qty	Percentage
Bulgaria	211	40.97
Romania	142	27.57
Iran	69	13.40
Russia	56	10.87
Unknown	36	6.99
China	1	0.19
TOTAL	515	100.00

Table 12
Quantities of post-2010 40 mm rockets documented in Iraq, per country of manufacture

Post-2010 manufacture	IRAQ								
	Qty							Total	Percentage
	2010	2011	2012	2013	2014	2015	2016		
China	0	0	0	0	33	58	32	123	40.33
Bulgaria	19	1	3	1	23	6	5	58	19.02
Iran	1	0	1	0	22	5	87	116	38.03
Romania	0	0	0	1	2	2	0	5	1.64
Sudan	0	0	0	0	1	1	0	2	0.66
Unknown	0	1	0	0	0	0	0	1	0.33
TOTAL	20	2	4	2	81	72	124	305	100.00

Table 13
Quantities of post-2010 73 mm rockets documented in Iraq, per country of manufacture

Post-2010 manufacture	IRAQ								
	Qty							Total	Percentage
	2010	2011	2012	2013	2014	2015	2016		
Bulgaria	16	96	0	0	2	7	7	128	57.92
Iran	0	0	1	0	7	41	20	69	31.22
Romania	0	0	0	0	19	0	2	21	9.50
China	0	0	0	0	0	1	0	1	0.45
Unknown	0	0	0	0	0	2	0	2	0.90
TOTAL	16	96	1	0	28	51	29	221	100.00

APPENDIX 2

Belgian licences authorising the export of weapons to Libya in 1980

© State Archives of Belgium (F 1013 Nr 216)

RELEVÉ N° 00065
OPGAVE N°

demande de licence à l'exportation présentée le 2 janvier 1980 au visa du Département des Affaires Étrangères
vergunningaanvraag voor voorgesteld op aan het visum van het Departement van Buitenlandse Zaken

Direction Générale de la Police
Algemeen Directie van de Politie

N° d'ordre Volgnummer	Nom et domicile du demandeur Naam en woonplaats van de aanvrager	Produit Produkt	N° statistique Statistieknummer	Poids net en kg Netogewicht in kg	Montant Bedrag	
05.476.033	FN HERSTAL S.A. Voie de Liège, 33, 4400 HERSTAL	2.000 mitrailleuses cal. 7,62 mm avec rechange et accessoires 8.000.000 maillons 15.000.000 cart. cal. 7,62 mm sur maillons 1.000.000 cart. cal. 50 sur maillons Pièces de rechange de fusil automatique 50.000 mètres de flanelle	93.03.004 93.06.100 73.23.250 93.07.310 59.17.990	1.289.000 kg	894.039.856 FB	
			Réalis. Realis.	pièces stuk	kg kg	P.B. B.P.
			Date Datum			
	Pays d'origine ou provenance Land van oorsprong of herkomst	Pays de destination Land van bestemming	Destinataire Bestemmeling		Validité accordée Toegestaan geldigheid	
	BELGIQUE	LIBYE	GOUVERNEMENT LIBYEN			
Remarques éventuelles — Eventuele aanmerkingen			Visa du Département des Affaires Étrangères Visum van het Departement van Buitenlandse Zaken			
Renouvellement partiel Voir relevé n° 90.423 16/07/80 et partiel 9/10/80 26/14/82 et partiel 4/5/82 1/10 et partiel 20/10/82 38483480 et partiel 15/07/83 47079155 et partiel 16/07/84			David 17.11.80 27-01-1980			

OFFICE CENTRAL DES CONTINGENTS ET LICENCES
BRUXELLES

RELEVÉ N° 00836
OPGAVE N°

demande de licence EXPORTATION présentée le 5 SEPTEMBRE 1980 au visa du Département des Affaires Étrangères
vergunningaanvraag voor voorgesteld op aan het visum van het Departement van Buitenlandse Zaken

Direction Générale de la Police
Algemeen Directie van de Politie

N° d'ordre Volgnummer	Nom et domicile du demandeur Naam en woonplaats van de aanvrager	Produit Produkt	N° statistique Statistieknummer	Poids net en kg Netogewicht in kg	Montant Bedrag	
05476127/I	FN HERSTAL S. A	135 MITRILLEUSES CAL. 7.62 AVEC RECH. & ACCESSOIRES 8.000.000 MAILLONS 4.002.700 CARTOUCHES CAL. 7.62 500.000 CARTOUCHES CAL. .50 SUR MAILLONS PIECES DE RECHANGE DE FUSIL AUTOMATIQUE	9305004 9306100 7323250 9307310	749.495 KGS	279.015.410 F.B.	
			Réalis. Realis.	pièces stuk	kg kg	P.B. B.P.
			Date Datum			
	Pays d'origine ou provenance Land van oorsprong of herkomst	Pays de destination Land van bestemming	Destinataire Bestemmeling		Validité accordée Toegestaan geldigheid	
	BELGIQUE	LIBYE	GOUVERNEMENT LIBYEN			
Remarques éventuelles — Eventuele aanmerkingen			Visa du Département des Affaires Étrangères Visum van het Departement van Buitenlandse Zaken			
RENOUVELLEMENT PARTIEL VOIR RELEVÉ 00172 38483485. et partiel 13/1/83 1/10 et partiel 10/7/83			Pas d'empêchement 22-09-1980 19.09.80			

APPENDIX 3

Table 14
Series of Hungarian AK-63F 762 x 39 mm assault rifles

Series	Country documented in	Serial number	Serial number difference
C	Iraq	C 03869	1009
	Syria	C 04878	
C	Iraq	C 42281	1954
	Syria	C 44235	
	Iraq	C 47660	3425
C	Iraq	C 54859	2744
	Iraq	C 57603	
C	Syria	C 73453	4559
	Syria	C 78012	
	Iraq	C 80052	2040
D	Syria	D 72348	388
	Syria	D 72736	
D	Iraq	D 86619	1614
	Iraq	D 88233	
EV	Syria	EV 1066	1480
	Iraq	EV 2546	
EX	Syria	EX 6554	1866
	Iraq	EX 8420	
EZ	Iraq	EZ 1438	1264
	Iraq	EZ 2702	
	Iraq	EZ 7028	4356
GA	Syria	GA 0301	6647
	Iraq	GA 6948	
GC	Iraq	GC 0702	4208
	Syria	GC 4910	

(continued)

Date requested	Country documented in	Serial number	Serial number difference
H	Iraq	H 60746	4157
	Iraq	H 64903	1239
	Syria	H 66142	448
	Syria	H 66590	
I	Syria	I 12344	4756
	Iraq	I 17100	2461
	Iraq	I 19561	4572
	Syria	I 24113	4177
	Syria	I 28290	314
	Iraq	I 28604	264
	Syria	I 28868	531
	Syria	I 29399	4014
	Syria	I 33413	2087
	Syria	I 35500	145
	Iraq	I 35645	7436
	Syria	I 43081	2819
	Iraq	I 45900	2237
	Syria	I 48137	1244
	Syria	I 49381	40
	Syria	I 49421	659
	Syria	I 50080	254
	Syria	I 50334	801
	Iraq	I 51135	5879
	Syria	I 57014	2585
	Syria	I 59599	7069
	Syria	I 66668	974
	Syria	I 67642	1117
	Iraq	I 68759	384
	Syria	I 69143	3686
	Iraq	I 72829	622
	Syria	I 73451	

(continued)

Date requested	Country documented in	Serial number	Serial number difference
K	Iraq	K 30034	1061
	Iraq	K 31095	
L	Iraq	L 51946	3788
	Iraq	L 55734	
	Syria	L 57517	
N	Syria	N 20502	6427
	Iraq	N 26929	
	Iraq	N 27485	
	Iraq	N 27894	
O	Syria	O 56175	272
	Iraq	O 56447	
	Iraq	O 61686	
P	Syria	P 54454	2457
	Syria	P 56911	
S	Syria	S 25355	1241
	Syria	S 26596	
S	Syria	S 49893	474
	Iraq	S 50367	
	Iraq	S 54190	
	Iraq	S 56882	
	Syria	S 60316	
S	Syria	S 72854	328
	Iraq	S 73182	
	Syria	S 81591	
T	Syria	T 39954	3825
	Iraq	T 43779	
	Syria	T 47875	
U	Iraq	U 75620	2480
	Syria	U 78100	
	Syria	U 86645	
	Iraq	U 87513	
	Iraq	U 87694	
	Syria	U 88344	

(continued)

Date requested	Country documented in	Serial number	Serial number difference
X	Syria	X 50247	8655
	Syria	X 58902	2073
	Syria	X 60975	6672
	Iraq	X 67647	619
	Syria	X 68266	

APPENDIX 4

A directive from the General Directorate of Customs, Ministry of Customs and Trade of Turkey

Sent by Metkim to CAR on 19 September 2016

T.C.
GÜMRÜK VE TİCARET BAKANLIĞI
Gümrükler Genel Müdürlüğü-Gümrük İdareleri Dairesi

Sayı :21558579/166.01[GGM-10.02]

Konu :Alüminyum Pasta (Pigment) ve benzeri eşyanın Suriye'ye çıkışı

02.07.2015 / 8997844

DAĞITIM YERLERİNE

Suriye ile ülkemiz arasındaki ticaret, Bakanlığımızın kara hudut kapılarına yönelik aldığı ve esasen gümrük hizmetlerinin yeniden planlanmasını içeren güvenlik temelli tedbirler çerçevesinde yürütülmekte ve zaman içerisinde ortaya çıkan gereklilikler sonucu hudut kapılarımızda bölge koşullarına uygun yeni tedbirler alınmaya da devam edilmektedir.

Bu çerçevede, 3207.10, 3207.30 ve 7603.10 tarife alt pozisyonu ile 3212.90.00.00.12 ve 3212.90.00.00.19 GTİP'inde yer alan eşyanın Suriye'ye açılan kara hudut kapılarımızdan çıkışına ilişkin gümrük hizmeti verilmemesi, Bakanlık Makamı'nın 01.07.2015 tarihli ve 8994729 sayılı onayları çerçevesinde uygun bulunmuştur.

Bilgi ve gereğini rica ederim.

Cenap AŞCI
Bakan a.
Genel Müdür

DAĞITIM:

Tüm Gümrük ve Ticaret Bölge Müdürlükleri
Hatay, Kilis, Gaziantep, Şanlıurfa, Mardin, Şırnak Valilikleri

A directive from the General Directorate of Customs, Ministry of Customs and Trade of Turkey

Translated into English by Metkim and sent to CAR on 19 September 2016

TURKISH REPUBLIC
Ministry of Customs and Trade
General Directorate of Customs-Custom Management Bureau

Issue:21558579/166.01[GGM-10.02]

Subject: Exporting Aluminum Paste(Pigment) and similiar goods to Syria

02.07.2015/8997844

TO DISTRIBUTION LOCATIONS

Trade between Syria and Our Country,our Ministry decided to plan for the terms of security based precautions towards land borders are taken.And as a result of over a time being,new forming necessities in our borders new appropriate precautions are continuing to be taken.

In this Context, H.S codes: 3207.10,3207.30 and 7603.10 sub-positioned tariffs and products at 3212.90.00.00.12 and 3212.90.00.00.19 for positions, services are not going to be given in our all Syrian Borders. Ministry's Chamber confirmed 01.07.2015 dated 8994729 issue which find appropriate to surroundings.

i kindly request you to inform and take necessary action.

Mr.Cenap Aşçı
On Behalf of Minister
General Manager

Disrtribution Locations,

Ministry of Customs and Trade Directorates,
Hatay,Kilis,Gaziantep,Şanlıurfa,Mardin,Şırnak Governorships.

