

BOWLES'S NEW AND ACCURATE MAP OF THE WORLD, OR TERRESTRIAL GLOBE, laid down from the BEST OBSERVATIONS and NEWEST DISCOVERIES; particularly those of the celebrated CIRCUMNAVIGATORS: Illustrated with a variety of useful PROJECTIONS and REPRESENTATIONS OF THE HEAVENLY BODIES: the most approved ASTRONOMICAL and GEOGRAPHICAL DEFINITIONS, TABLES, and PROBLEMS. With an easy and familiar Explanation of the most curious and interesting PHENOMENA in the UNIVERSAL SYSTEM. Printed in the Strand, near St. Dunon's Church, London. 1781.



Terrorist and Insurgent Teleoperated Sniper Rifles and Machine Guns

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and
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Open Source, Foreign Perspective, Underconsidered/Understudied Topics

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FMSO has provided some editing, format, and graphics to this paper to conform to organizational standards. Academic conventions, source referencing, and citation style are those of the author.

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INTRODUCTION

This data set consists of twenty-one teleoperated weapons systems used by terrorist and insurgent groups. It is worth noting that there are many more systems' images available, but no group affiliation could be associated with them, which is why they were not included in this research project. The plethora of videos and photos on social media indicates that terror and insurgent groups are increasingly turning to improvised weaponry use on the battlefield. One class of improvised weapon that is emerging is remote controlled sniper rifles and machine guns. They are being used across Syria, Iraq, and a lone case in Libya as early as 2011. Typically, rifles or machine guns are improvised to be secured on a base—either mobile or stationary—and linked to cables, which are connected to a remote and screen. Some systems are more refined than others, such as with cameras, but all have at least proven to be somewhat effective. The Free Syrian Army (FSA) was at the forefront of using improvised weaponry for the better part of 2013, based on what is still available on social media. But other rebel groups as well as Islamic State and Al Qaeda affiliates caught on to the trend quickly. In early 2016, videos and *Twitter* images even surfaced of improvised weaponry developed by Iraqi military forces. There is a level of sophistication and practicality of these groups to use what is available and create a weapon that can cause a great deal of damage. Social media outlets like *Twitter*, *Facebook*, and *YouTube* take down undesirable content periodically, but the majority of these system videos have remained online.

While there is an abundance of teleoperated weapons in the hands of Islamic militants, they are certainly not of the quality one would see fielded by developed nations with sophisticated research and development teams. In Daejeon, South Korea, engineers developed a belt-fed .50 caliber machine gun turret known as the Super aEgis II, which was unveiled in 2010 and has since been improved as of 2016. An Ethernet cable runs from the turret's base to the back of a computer with the rifle controlled by a joystick. With a four-kilometer engagement range, the joystick gives the operator the ability to maneuver the weapon and aim, while adjacent buttons control distance, chamber loading, and firing. The system will not fire without the command from a human operator. The Super aEgis II costs \$40 million and has had a number of buyers, mostly in the Middle East: airbases across the United Arab Emirates, the Royal Palace in Abu Dhabi, and an armory in Qatar. Others have purchased the system for use at airports and military bases. This is the most recent debut by South Korea who have also created more improvised—and less costly—weaponry to protect their border with North Korea.



Super aEgis II Robot Turret-Sentry on Pole
DoDAAM Systems, South Korea

Similarly, Israel has developed a slew of improvised weaponry, given its unfriendly neighbors. Israel is under constant threat of Hezbollah and Palestinian militants in the Gaza Strip. In 2010, Israel made headlines with its female-only operated “spot and shoot” technology. Officially known as “SentryTech,” the system resembles a video game. A mounted weapon can be operated by a remote control and targets are spotted on a computer screen. Additionally, as early as June 2016, Israel debuted small “combat robots,” which can climb stairs and maneuver through almost any terrain. The mini-robot is also capable of carrying a fully loaded Glock with 14 rounds. Called Dogo, it weighs a little over 25 pounds, has eight cameras to provide a 360-degree view, and possesses enough battery life for up to five hours of operation.

Russia is also building up its teleoperated technological arsenal. At the beginning of 2016, the Russian military developed a remote controlled 30-mm auto cannon turret. The system is called ABM M30-M3, developed by Impuls-2, a Crimea based firm. It can be linked with Strazh-m, which is a computer system to remotely control the turret as well as assist with tracking and targeting. The system can be as far as 50 kilometers away from the turret for it to be remotely controlled by an operator. The turret can be installed on warships, military boats, and armored vehicles. Additionally, the Russians have built Uran-9, which is used mainly for reconnaissance. It is not necessarily an improvised rifle like the previous example, but it is an improvised tank that is unmanned and can be remotely controlled. Uran-9 was developed by Rosoboronexport, a Russian defense contracting firm. The turret attached to this armored vehicle is a 30-mm cannon that has a rate of fire of up to 400 rounds per minute. A 7.62mm machine gun is also mounted adjacent to the cannon. Interestingly, the tank consists of four 9M120 Ataka anti-tank missiles and four Igla-S surface to air missiles. Russia has reported that they intend on exporting this mini-robot tank for missions abroad.



Example of a sophisticated system:
TRAP T192 Remote-Controlled Sniping System With Weapon,
Mount, Solar Kit, Controller, Battery, Cabling, and Back Pack
Precision Remotes

With the context provided, the accompanying teleoperated weapons data set serves as a baseline resource concerning emerging terrorist and insurgent capabilities in this area. It has been pieced together drawing upon open source social media and news reports to provide insights into an understudied operational environment threat that has been gradually developing in the Middle East.

TELEOPERATED SNIPER RIFLES AND MACHINE GUNS DATA SET

No. 1. Toy Truck Mounted Machine Gun



Group: Rebel Fighters

No Symbol

Location: Misrata, Libya

Date: June 2011

Synopsis: Rebel fighters created this improvised weaponry in Libya to fight Gaddafi forces in 2011. The UK's *Daily Mail* gained access to investigate the rebel fighters' improvised weaponry. Reporters discovered that many of the improvised weaponry "engineers" come from an array of backgrounds: college students, shop owners, and even drivers. The accompanying photo shows a children's toy remote controlled car that has been improvised to function as a mobile remote controlled turret. There is also a camera attached to the car, which relays video feed to the toy car's operator.

Source(s): "Pick-ups with tank turrets, homemade bombs and a child's toy truck with a mounted machine gun..." *Daily Mail*. 16 June 2011, <http://www.dailymail.co.uk/news/article-2004050/Libya-War-Home-bombs-childs-toy-truck-mounted-machine-gun.html> and "Libya rebels make weapons from scraps." *YouTube (Al Jazeera English video posting)*. 14 June 2011, <https://www.youtube.com/watch?v=jCyRBUAEnEM>. 2:44 Minutes.

No. 2 Al Sunnah Knights Created Remote Controlled Machine Gun



Group: Al Sunna Knights



Location: Aleppo Region, Syria

Date: November 2012

Synopsis: A *YouTube* video published by Al Sunnah Knights (“Jama’at Ansar al-Sunnah”) fighters shows the groups capabilities in improvised weaponry. The video, in Arabic, reveals how fighters designed a remote controlled machine gun along with a demonstration. They show a machine gun with a laser scope mounted on a mobile cart affixed to cables that reach a screen, which is operated by a remote control. The mobile cart is specially designed, having been painted black with the words “Praise Allah for this weapon.” The group has been linked to Al Qaeda in the Arabian Peninsula (AQAP).

Source(s): “Remote Control Machine Gun.” *YouTube* (Al Sunna Knights video posting) 17 November 2012, <https://www.youtube.com/watch?v=rb6EmSPVvGA>. 4:13 Minutes.

No. 3 FSA Use Remote Controlled Sniper-rifle



Group: FSA (Free Syrian Army)



Location: Aleppo Region, Syria

Date: March 2013

Synopsis: Amateur video posted on “Live Leak” shows FSA terrorists using a remote-controlled 7.62 mm FAL rifle with a scope. The mounted rifle is linked to cables that are connected to a small computer, with a small camera attached to its scope. The operator in the video appears to be roughly 5 meters away when using the rifle.

Source(s): “FSA terrorists use remote-controlled US sniper-rifle to attack Syrians.” *LiveLeak*. 26 March 2013, http://www.liveleak.com/view?i=39f_1364585702. 1:58 Minutes, Spencer Ackerman, “Video: Syrian Rebel Jury-Rigs A Remote Controlled Rifle.” *Wired*. 27 March 2013, <https://www.wired.com/2013/03/syria-remote-control/>, and Wassim Nasr, “Do-it-yourself weaponry: How Syrian rebels wage war.” *France 24*. 17 May 2013, <http://observers.france24.com/en/20130516-do-it-yourself-weapons-syrian-rebels>.

No. 4 FSA Built Mini Tank to Carry Weapon



Group: FSA (Free Syrian Army)



Location: Idlib Region, Syria

Date: May 2013

Synopsis: The FSA posted a video on *YouTube* showing how the rebel jihadists designed a small tank to carry weapons. The tank can carry a variety of weapons, as the video shows, and can be remotely controlled. The video taken by Pan-Arabic media, *Almayadeen*, shows how rebels use computers and controllers to operate the mini-tank as well as the mounted weapon of choice. To

demonstrate the use of the tank and weapon, rebels shoot at a photograph of Hafez al-Assad, former Syrian President and late father of current Syrian President Bashar al-Assad. The top picture provides a good overview of the mini-tank while the bottom picture shows that an AK-variant assault rifle is being carried by the teleoperated system.

Source(s): “FSA Invent a Robot in the Form of a Small Tank Carrying Different Weapons (فصلت خم ةحل س ا لمحت ةري غص ةب ابد لكش ىل ع توبر عرتخي رحل ا ش ي ج ل ا).” *YouTube*. 2 May 2013, <https://www.youtube.com/watch?v=qdETEJf8NIE>. 6:23 Minutes.

No. 5 FSA Mount Machine Gun on Mobile Base



Group: FSA (Free Syrian Army)



Location: Aleppo Region, Syria

Date: April 2013

Synopsis: The Free Syrian Army (FSA) posted a video that shows a machine gun mounted on a mobile base. The operator is using a small computer to control the base as well as the weapon, which are connected by cables that are linked to the computer. A small camera assists the operator in identifying a target, though the computer screen being utilized does not appear clear enough for very accurate shooting.

Source(s): “The Syrian Rebel RC Machine Gun.” *Military.com Video Center (Syria 2013 TV)*. 12 April 2013, <http://www.military.com/video/guns/machine-guns/the-syrian-rebel-rc-machine-gun/2296633217001>. 1:25 Minutes and “Improvised Weapons Made by Syrian Rebels: Machine Gun Robot.” *Popular Science*. 29 May 2013, <http://www.popsci.com/technology/article/2013-05/ten-improvised-weapons-made-syrian-rebels?image=8>.

No. 6 FSA Create Wireless Machine Gun



Group: FSA (Free Syrian Army)



Location: Aleppo Region, Syria

Date: May 2013

Synopsis: Syrian rebels posted a video showing their improvised weapon: A Soviet machine gun mounted on a stand that can be remotely fired. There is no evidence in the video that indicates an attached camera like that found on other improvised weaponry utilized by Syrian rebels is being used for targeting purposes. Though it's not one of the more sophisticated improvised weaponry by the rebels, it nonetheless adds to their creativity with what is available.

Source(s): "Improvised Weapons Made by Syrian Rebels: A Wireless Machine Gun." *Popular Science*. 29 May 2013,

<http://www.popsci.com/technology/article/2013-05/ten-improvised-weapons-made-syrian-rebels?image=9>.

No. 7 FSA Create Remote Controlled Machine Gun



Group: Free Syrian Army (FSA)



Location: Homs, Syria

Date: July 2013

Synopsis: A *YouTube* video by Free Syrian Army (FSA) fighters in Homs, Syria, showcases their remote controlled machine gun. The video records a fighter, who has covered his face and disguised his voice, describing the specifications of the weapon. This is one of the more advanced pieces displayed by rebel forces, displaying a mounted machine gun with a camera attached to the scope, linked to cables, which is operated by a PlayStation remote control. The remote controlled mount can move the weapon vertically or make a 360 degree turn.

Source(s): "Remote Control Gun Made in Homs" by Syrian fighters." *YouTube* (*Baynetna News* video posting) 11 July 2013, <https://www.youtube.com/watch?v=1m0iUlcoe8A>. 2:00 Minutes.

No. 8 Al-Tawhid Fighters Create Remote Controlled Sniper Rifle



Group: Al-Tawhid Brigade



Location: Aleppo Region, Syria

Date: August 2013

Synopsis: A video with Al-Tawhid fighters displaying an ‘improvised sniper rifle’ at 3:08 minutes is provided. The Al-Tawhid Brigade, which formed in 2012 and reportedly supported by Qatar, has led much of the insurgency in the Aleppo area in Syria. This improvised weapon is one example of the group’s efforts to combat the Syrian Armed Forces and the Islamic State. The small arm—what appears to be a 7.62 mm FAL rifle—does not have a scope and camera interface making this at best an area fires type of weapon.

Source(s): “FSA Weapons, MacGyver Style: Al-Tawhid weapon.” *Military.com* (Al-Tawhid video clip). 13 August 2013,

<http://www.military.com/video/logistics-and-supplies/military-equipment/syrian-rebel-weapons-macgyver-style/2617171329001>. 8:23 Minutes.

No. 9 Islamic State Affiliate Use Remote Controlled Sniper Rifle



Group: Islamic State Affiliate



Location: Madinat Ath Thawrah, Syria

Date: August 2013

Synopsis: In the accompanying *YouTube* video, an Islamic State affiliate group display another remote controlled sniper rifle. The rifle is mounted on a base that is connected to cables. It traces back to a small screen with a joystick that the operator uses to control the weapon. An external camera displays the visuals for the operator, which is previewed in the video. The rifle utilized is covered with a metal cover making it unidentifiable however the rifle's report, recoil, and barrel diameter are consistent with a larger caliber weapon.

Source(s): "Syrian 'rebels' hide behind remote controlled sniper." *YouTube* (Islamic State Affiliate video posting). 15 August 2013, <https://www.youtube.com/watch?v=Cv10WhuvgeE>. 0:56 Minutes.

No. 10 Al-Tawhid Brigade Fighters Create Remote Controlled Rifle



Group: Al-Tawhid Brigade



Location: Idlib Region, Syria

Date: September 2013

Synopsis: A *YouTube* video shows an Al-Tawhid Brigade fighter demonstrating the use of a remote controlled rifle. Given the date, the Al-Tawhid Brigade allied with al-Qaeda fighting the Syrian Armed Forces, the Islamic State, and Hezbollah across northern Syria.

Source(s): "Creative Syria Rebels Build Remote Controlled Rifles to Battle Dictator Assad 9-13-13." *YouTube*. 13 September 2013, <https://www.youtube.com/watch?v=QogFEFm9qLQ>. 1:55 Minutes.

No. 11 FSA Create Remote Controlled German StG-44



Group: FSA (Free Syrian Army)



Location: Aleppo Region, Syria

Date: September 2013

Synopsis: Syrian rebels have created a remote controlled sniper rifle from a German StG-44 (Sturmgewehr 44)—a rifle developed during World War II. The rifle is mounted on servomotors to allow the weapon to be operated by remote control. A camera is also mounted on the scope, which is wired to an LCD screen. As the accompanying report explains, this gives longer range without the possibility of jamming or hacking. The accompanying *YouTube* video shows a montage of rebels using improvised weaponry, including the remote controlled StG-44. In 2012, rebels claimed that they had seized roughly 5,000 of these rifles from the Syrian Army. Footage, such as the one below, has since been posted showing rebels using these rifles against the Syrian Army.

Source(s): Steve Johnson, “MIND BLOWN: Remote Control Sturmgewehr 44 In Syria.” *TFB*. 30 September 2013,

<http://www.thefirearmblog.com/blog/2013/09/30/mind-blown-remote-control-sturmgewehr-44-syria/> and Warleaks, “Syrian Civil War - German World War 2 Era STG 44 Rifle Used By Syrian Rebels In Firefight.” *YouTube* (Syrian Rebel video posting). 16 June 2015, <https://www.youtube.com/watch?v=2OBNrfKjE0w>. 1:30 Minutes.

No. 12 Ajnad al-Sham Islamic Union Create Remote Controlled Machine Gun



Group: Ajnad al-Sham Islamic Union



Location: Damascus, Syria

Date: March 2014

Synopsis: Ajnad al-Sham Islamic Union (“al-ittihad al-Islami li-ajnad al-sham”) posted a video on *YouTube* displaying a remote controlled machine gun. The fighters in the video can be heard reciting a prayer about “the grace of Allah for the ability to create this weapon.” They spend the

majority of the video describing how they assembled the weapon and how it is remote controlled. There are cables connected to the base of the machine gun to be controlled by a joystick, which are linked up to a large desktop computer screen. The rebels conclude the video with a demonstration of how the machine gun works by firing at a wall. Of note is the design feature of placing a rifle scope underneath the weapon for targeting purposes. This conceivably would allow for the ability to more quickly change out the weapon utilized with some diminished targeting

Source(s): “سي ياك يب شاشر عي نصت نيده اجملا يدي أى لى عى لاعت هللا لى فب مت” *YouTube* (Ajnad al-Sham Islamic Union video posting). 20 March 2014, <https://www.youtube.com/watch?v=vHz19XM5Cg8>. 1:30 Minutes.

No. 13 Al Nusra Fighters with Remote Controlled Sniper Rifle



Group: Jabhat Al Nusra



Location: Idlib Region, Syria

Date: March 2014

Synopsis: The photo was taken near the Syrian border of Al Nusra fighters with a remote controlled sniper rifle. Al Nusra has typically fought battles in northwestern Syria. The date of the photo suggests that the group was fighting in the Idlib province in Syria, employing improvised weaponry such as the remote controlled sniper rifle.

Source(s): “Three an-Nusra Front fighters holding an automatic ‘sniper rifle’ which operates by a remote, and was built by foreign fighters. An-Nusra Front.” *Alamy*. 26 March 2014, <http://www.alamy.com/stock-photo-border-syria-26th-mar-2014-three-an-nusra-front-fighters-holding-an-79081047.html>.

No. 14 FSA Fighter Using Remote Controlled Sniper Rifle



Group: FSA (Free Syrian Army)



Location: Handarat Front Line Near Aleppo Central Prison, Syria

Date: May 2014

Synopsis: *BBC News* searched Syrian social media to capture images of various improvised weaponry being used on the battlefield in Syria. One image shows a rebel fighter working on equipment operating a remote controlled sniper rifle. The sniper rifle resembles other improvised sniper rifles Syrian rebels have previously created; that is, the rifle is mounted with a camera attached to its scope and is connected by cables to a joystick and small screen. According to the description, the location of the fighter is the Handarat front line near Aleppo Central prison in Syria.

Source(s): “Day in pictures: 27 May 2014—Rebel fighter and remote controlled sniper rifle 27 May 2014.” *BBC News*. 27 May 2014, <http://www.bbc.com/news/world-27583916>.

No. 15 Islamic State Uses Remote Controlled Sniper Rifle



Group: Islamic State



Location: Madinat Ath Thawrah Region, Syria

Date: July 2014

Synopsis: This video is believed to be posted by the Islamic State of a fighter using a remote controlled sniper rifle. The fighter in the video shows how the rifle is used with a remote control linked to a small computer screen. The logo indicates that this may be IS given the “Surah al-Kafirun” verse below the black flag of jihad. The rifle is larger caliber—possibly a .50 Cal—with the trigger and butt stock removed. It appears to have a very slow single shot loading capability from the base of the barrel via a primitive breach mechanism.

Source(s): “The Remote Controlled Sniper-Rifle Is Back For Action.” *Live Leak* (Islamic State Affiliate video posting). 29 July 2014, http://www.liveleak.com/view?i=99c_1406651450. 1:07 Minutes.

No. 16 Kurdish Fighters Use Remote Controlled Machine Gun



Group: Kurdish Peshmerga



Location: Mosul Region, Iraq

Date: March 2015

Synopsis: Kurdish Peshmerga fighters have been fighting ISIS in northern Iraq, in and around Mosul. The accompanying video shows Kurdish fighters demonstrating the use of a remote controlled machine gun. The machine gun is mounted in the flatbed of a pickup truck, connected to wires, which can then be controlled by a joystick linked to a computer screen.

Source(s): “Homemade robotic machine gun made by a local Kurd for Peshmerga.” *YouTube* (Kurdish social media video posting). 27 March 2015, https://www.youtube.com/watch?v=gKqsanw_TAg. 0:49 Minutes.

No. 17 Kurdish Fighters Create Remote Controlled Machine Gun



Group: Kurdish Peshmerga



Location: Mosul Region, Iraq

Date: May 2015

Synopsis: Kurdish Peshmerga fighters in northern Iraq continue to showcase their improvised weaponry capabilities. Social media photos display an improvised robotic machine gun, which operates with a remote control. A camera is attached to the scope and relays the feed to a monitor, which can move sideways 320 degrees, downward 30 degrees, and upwards 76 degrees.

Source(s): “Kurdish engineer modified a machine gun that now can be fired remotely. A camera was attached (on top). #TwitterKurds.” *Twitter*. 28 May 2015, <https://twitter.com/Sarbarzi/status/603989402700943360>.

No. 18 Islamic State Created Remote Controlled Sniper Rifle



Group: Islamic State



Location: Kirkuk Region, Iraq

Date: June 2015

Synopsis: A *Fox News* article reports that Kurdish forces had discovered a scoped sniper-rifle being used by the Islamic State. Kurdish fighters told a reporter that they had found the sniper-rifle in Kirkuk. It is mounted on a welded steel platform and built to track targets via computer, which can then be fired remotely. The gun is attached to the computer by four long cables that control the barrel elevation, gun rotation, trigger, and camera.

Source(s): "ISIS' frightening arsenal: Remote-controlled sniper rifles, steel plated suicide trucks." *Fox News*. 2 June 2015, <http://www.foxnews.com/world/2015/06/02/isis-frightening-arsenal-remote-controlled-sniper-rifles-steel-plated-suicide.html>.

No. 19 Rebel Fighter Using Remote Controlled Machine Gun



Group: Rebels

No Symbol

Location: Aleppo Region, Syria

Date: September 2015

Synopsis: In the accompanying video, a rebel fighter is using a remote controlled machine gun. It is unclear which rebel group this belongs to, but the commentary in the video suggests that the weapon is being used in the Aleppo region of Syria.

Source(s): "Syria - One more Machine Gun, controlled by a gamepad." *Daily Motion* (*QasiounNewsAR* video posting). 5 September 2015, <http://www.dailymotion.com/video/x34wncj>. 2:34 Minutes.

No. 20 Iraqi Militia Forces Use Remote Controlled Machine Gun



Group: Iraqi Militia Forces or “Popular Mobilization Forces” (PMF)



Location: Mosul Region, Iraq

Date: February 2016

Synopsis: The Popular Mobilization Forces in Iraq, under the command of Jamal Jaafar Ibrahim, displayed a remote controlled machine gun on social media. The machine gun appears to have an attached camera that sends a display to a small screen. Under the command of the Iranian Guard Corps (IRGC) trained Ibrahim, the PMF retook Fallujah from the Islamic State and seized Mosul in 2014.

Source(s): “#Iraq #Iraqi #Badr Military Wing Engineering Department of Islamic Resistance New Electronic Operated Machine Gun.” *Twitter*. 17 February 2016, <https://twitter.com/ivansidorenko1/status/699988683672461312>.

No. 21 Islamic State Creates Remote Controlled Sniper Rifle on Moveable Base



Group: Islamic State



Location: Iraqi-Kurdistan Border, Iraq

Date: April 2016

Synopsis: Kurdish forces discovered ISIS's remote controlled machine gun in Iraq. A Kurdish commander provided access to *Euronews*, explaining that a fighter could operate the weapon while hiding in a bunker and having view of above ground through a camera. A Kurdish unit was ambushed by the system losing several of its soldiers in the process of overrunning the position. Dogs were tied upon around the teleoperated weapon to help protect it. The accompanying video shows the weapon mounted on a moveable base, the ambush zone it was set in, and the some of the dogs that protected it.

Source(s): "ISIL's remote controlled machine gun." *YouTube* (*Euronews* video posting). 4 April 2016, <https://www.youtube.com/watch?v=BOY1tVijRxA>. 1:12 Minutes.

ANALYSIS AND CONCLUSIONS

This data set has shown that terror and insurgent groups have been improvising weapons to make technical advances on the battlefield. They have proven to be more efficient than expected. Their capabilities also extend to hacking. In 2009, Shia militants claimed to have used Russian-made hacking software to hack a Predator drone. Using SkyGrabber, they were allegedly watching the same video feed as Americans from the drone. Hacker capabilities and improvised weaponry have continually attracted recruits. The younger generation is drawn towards the technology and innovation. Specifically targeting young engineers, amateurs or otherwise, Islamic groups have been showing off their improvised weaponry for at least the past decade.







Videos and images of teleoperated systems are useful to military personnel because such media informs them concerning new terrorist TTPs (tactics, techniques, and procedures) and well as to regions with operational clusters of use. However facing these systems is becoming a dangerous reality. It can be difficult to determine whether there is a human operator firing a weapon or if they are securely hidden a distance away while remotely operating it. As the data set suggests, some weapons show a greater detail of sophistication than others. The remoted controlled machine gun created by the Al Qaeda affiliate, Al Sunna Knights (No.2), is affixed with a laser scope. The FSA's remote controlled machine gun used in Homs (No.7) can make a 360-degree turn. Even Kurdish Peshmerga fighters, as early as 2015, revealed their improvised robotic machine gun being used in northern Iraq, which has live feed capability. In early 2016, Peshmerga fighters discovered an improvised teleoperated weapon that belonged to Islamic State militants in Iraq.











It is evident by these cases—and others not listed—that terrorists and insurgents are increasingly turning to teleoperated weaponry to support and augment their forces in battle. This is especially the case in the Aleppo region of Syria that has become an 'incubator of experimentation' with regard to these systems. In many cases, if not all, they are using expert technicians and engineers to fashion robotics that will function as remote controlled weapons. It is troublesome to wonder how well they would do if they had better materials—potentially making something that could actually match the weaponry developed in the United States. As the conflict escalates, the likelihood of more of these types of weapons being employed is highly probable. In the worst case, terror groups may even obtain more modern weapons to improvise, which may boost accuracy. Some have proven their hacking abilities; in cases such as Israel with a mini-robot or weapons that have Wi-Fi capabilities, there is a threat that these types of weapons may be manipulated. In the wrong hands, they can certainly cause considerable damage.



There have been cases where a weapon was created using a 3D printer. A U.S.-based company created the world's first 3D printed gun in 2013. Called the Liberator, the gun was made entirely of plastic with the exception of the firing pin and could fire a .380 caliber bullet. In 2014, the company also developed "Ghost Gunner," which is a system capable of carving out digitally-modeled shapes. "Ghost Gunner" is specifically meant to make the lower receiver of an AR-15 rifle. Also in 2014, a mechanist in Pennsylvania developed rounds that could be fired specifically by 3D guns. Technology now exists whereby anyone can essentially download a guide that will allow them to print a weapon for use and it is relatively inexpensive to do so. "Call of Duty" type weapons technology and capabilities are quickly turning into a dangerous reality.

Terror and insurgent groups are essentially throwing together pieces of whatever they can find to make a remote controlled weapon. It is also a question of how much other nations are putting into research and development. As addressed earlier, countries like South Korea and Israel are gaining ground in this type of development, but it is likely due to their respective border threats. Russia, comparatively, appears to be rapidly expanding its research and development in advanced technological weapons to not only for their own defense, but to also quickly export such weapons for use abroad. The improvised weaponry presented in this data set is unique and may not sustain any long term use, but Islamic militants in the Middle East are using their improvised versions now.

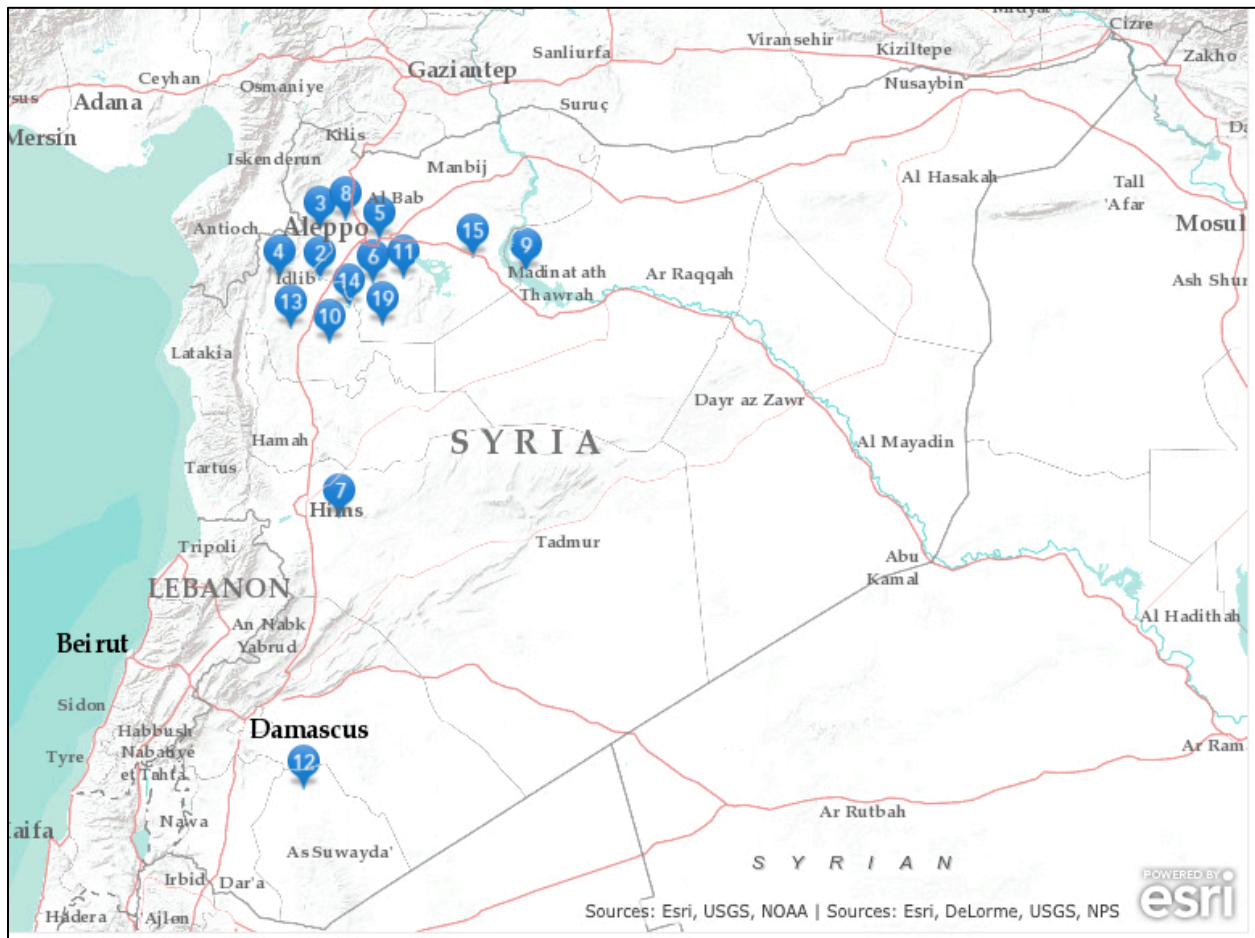
APPENDIX 1: TELEOPERATED SNIPER RIFLES AND MACHINE GUNS TABLE

No.	Date	Group	Location	Summary
1	6/16/2011	Libyan Rebels <i>No Symbol</i>	Misrata, Libya	Rebels use child's toy with mounted machine gun
2	11/17/2012	Al Sunnah Knights 	Aleppo Region, Syria	Rebels create remote controlled machine gun
3	3/26/2013	FSA 	Aleppo Region, Syria	Rebels use remote controlled US sniper-rifle
4	5/2/2013	FSA 	Idlib Region, Syria	Rebels invent a robot to carry weapons
5	5/29/2013	FSA 	Aleppo Region, Syria	Rebels create machine gun robot
6	5/29/2013	FSA 	Aleppo Region, Syria	Rebels create machine gun
7	7/11/2013	FSA 	Homs, Syria	Remote controlled sniper rifle
8	8/13/2013	Al-Tawhid 	Aleppo Region, Syria	Rebels create remote controlled sniper-rifle
9	8/15/2013	Islamic State Affiliate	Madinat Ath Thawrah, Syria	Rebels create remote controlled sniper-rifle

				
10	9/13/2013	Al-Tawhid 	Idlib Region, Syria	Rebels create remote controlled rifle
11	9/30/2013	FSA 	Aleppo Region, Syria	Rebels create remote controlled StG- 44
12	3/20/2014	Ajnad al-Sham Islamic Union 	Damascus, Syria	Remote controlled machine gun with scope mounted under the weapon
13	3/26/2014	Al Nusra 	Idlib Region, Syria	Fighters create remote controlled sniper-rifle
14	5/27/2014	FSA 	Aleppo, Syria	Rebels create remote controlled sniper rifle
15	7/29/2014	Islamic State 	Madinat Ath Thawrah Region, Syria	IS fighters use remote controlled sniper-rifle
16	5/27/2015	Kurdish Peshmerga 	Mosul Region, Iraq	Fighters use remote controlled machine gun
17	5/28/2015	Kurdish Peshmerga 	Mosul Region, Iraq	Fighters create remote controlled machine gun
18	6/2/2015	Islamic State 	Kirkuk Region, Iraq	IS created remote controlled sniper-rifle

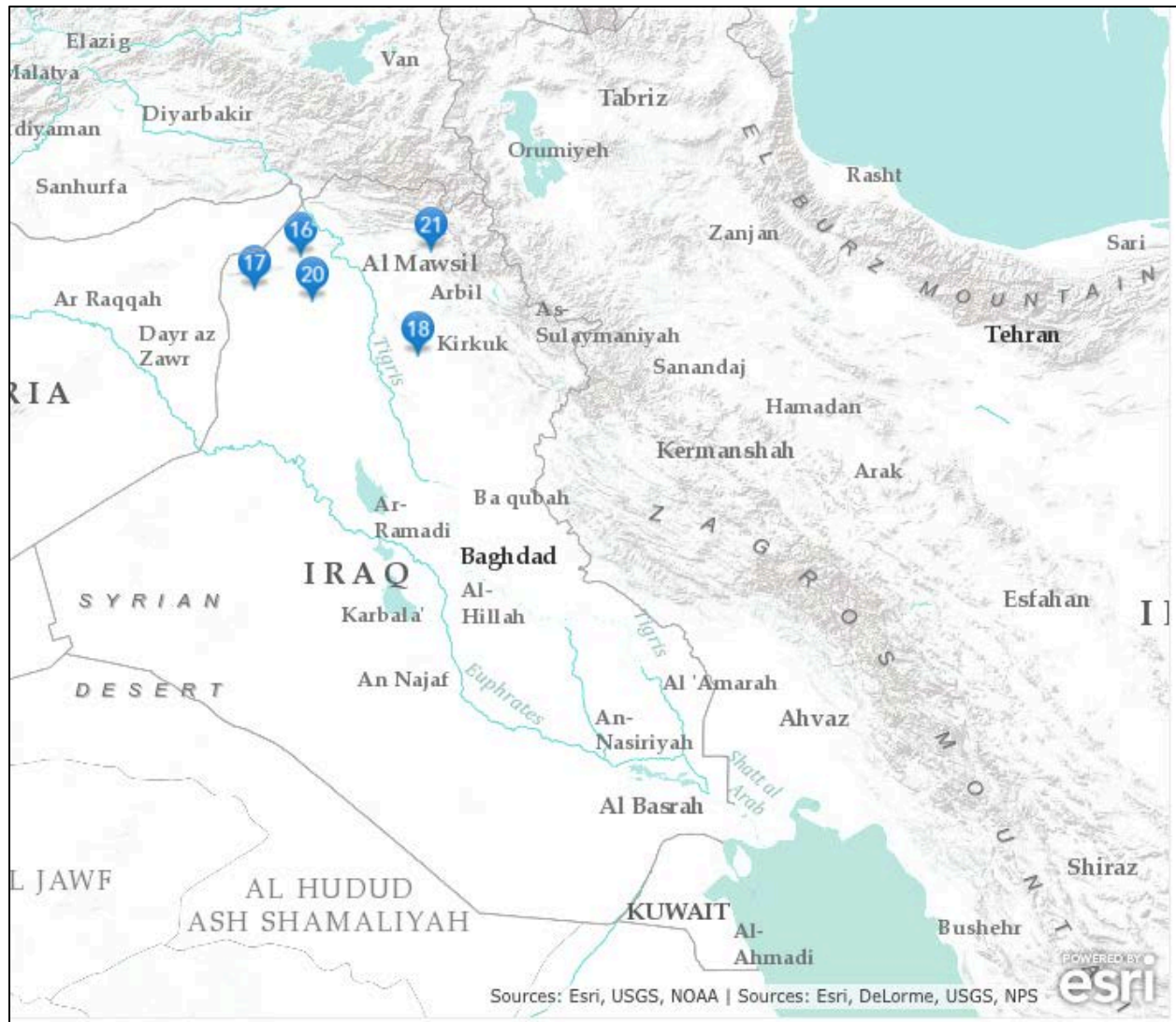
19	9/5/2015	Rebel Group <i>No Symbol</i>	Aleppo Region, Syria	Rebel fighter using remote controlled machine gun
20	2/17/2016	PMF 	Mosul Region, Iraq	Iraqi militia forces use remote controlled machine gun
21	4/4/2016	Islamic State 	Iraqi-Kurdistan Border, Iraq	IS creates remote controlled sniper-rifle on movable base

APPENDIX IIA: MAP OF SYRIA WITH TELEOPERATED WEAPONS LOCATIONS



Note—Teleoperated weapons video/social media posting dates were cross referenced with news reports of fighting in and around Aleppo to determine approximate geographic location of the terrorist and insurgent group systems.

APPENDIX IIB: MAP OF IRAQ WITH TELEOPERATED WEAPONS LOCATIONS



Note—Teleoperated weapons video/social media posting dates were cross referenced with news reports of Northern Iraq fighting to determine approximate geographic location of the terrorist and insurgent group systems.

APPENDIX IIC: MAP OF LIBYA WITH TELEOPERATED WEAPONS LOCATIONS



SELECTED REFERENCES

ARTICLES

Spencer Ackerman, "Video: Syrian Rebel Jury-Rigs A Remote Controlled Rifle." *Wired*. 27 March 2013, <https://www.wired.com/2013/03/syria-remote-control/>.

"Three an-Nusra Front fighters holding an automatic 'sniper rifle' which operates by a remote, and was built by foreign fighters. An-Nusra Front." *Alamy*. 26 March 2014, <http://www.alamy.com/stock-photo-border-syria-26th-mar-2014-three-an-nusra-front-fighters-holding-an-79081047.html>.

"Day in pictures: 27 May 2014—Rebel fighter and remote controlled sniper rifle 27 May 2014." *BBC News*. 27 May 2014, <http://www.bbc.com/news/world-27583916>.

Robert J. Bunker, "Home Made, Printed, and Remote Controlled Firearms—Terrorism and Insurgency Implications." *TRENDS Research & Advisory*. 21 June 2015, <http://trendsinstitution.org/?p=1250>.

"Pick-ups with tank turrets, homemade bombs and a child's toy truck with a mounted machine gun..." *Daily Mail*. 16 June 2011, <http://www.dailymail.co.uk/news/article-2004050/Libya-War-Home-bombs-childs-toy-truck-mounted-machine-gun.html>.

"ISIS' frightening arsenal: Remote-controlled sniper rifles, steel plated suicide trucks." *Fox News*. 2 June 2015, <http://www.foxnews.com/world/2015/06/02/isis-frightening-arsenal-remote-controlled-sniper-rifles-steel-plated-suicide.html>.

Steve Johnson, "MIND BLOWN: Remote Control Sturmgewehr 44 In Syria." *TFB*. 30 September 2013, <http://www.thefirearmblog.com/blog/2013/09/30/mind-blown-remote-control-sturmgewehr-44-syria/>.

Wassim Nasr, "Do-it-yourself weaponry: How Syrian rebels wage war." *France 24*. 17 May 2013, <http://observers.france24.com/en/20130516-do-it-yourself-weapons-syrian-rebels>.

"Improvised Weapons Made by Syrian Rebels: Machine Gun Robot." *Popular Science*. 29 May 2013, <http://www.popsci.com/technology/article/2013-05/ten-improvised-weapons-made-syrian-rebels?image=8>.

"Improvised Weapons Made by Syrian Rebels: A Wireless Machine Gun." *Popular Science*. 29 May 2013,

<http://www.popsci.com/technology/article/2013-05/ten-improvised-weapons-made-syrian-rebels?image=9>.

“Kurdish engineer modified a machine gun that now can be fired remotely. A camera was attached (on top). #TwitterKurds.” *Twitter*. 28 May 2015, <https://twitter.com/Sarbarzi/status/603989402700943360>.

“#Iraq #Iraqi #Badr Military Wing Engineering Department of Islamic Resistance New Electronic Operated Machine Gun.” *Twitter*. 17 February 2016, <https://twitter.com/ivansidorenko1/status/699988683672461312>.

“This \$22K sniper rifle comes with a WiFi server...” *Venture Beat*. 18 May 2013, <http://venturebeat.com/2013/05/18/this-22k-sniper-rifle-comes-with-a-wifi-server-usb-ports-an-ipad-mini-and-aims-itself/>

“Self-aiming’ rifle turns novices into expert snipers.” *New Scientist*. 20 May 2013, <https://www.newscientist.com/article/dn23571-self-aiming-rifle-turns-novices-into-expert-snipers/#.VV9spUuIzFI>

“Precision Remotes TRAP T192 Remote Sniper Kit.” *The Fire Arm Blog*. 18 October 2013, <http://www.thefirearmblog.com/blog/2013/10/18/precision-remotes-trap-t192-remote-sniper-kit/>

“Killer robots: The Soldiers that never sleep.” *BBC*. 16 July 2015, <http://www.bbc.com/future/story/20150715-killer-robots-the-soldiers-that-never-sleep>

“Israel paves the way for killing by remote control.” *The National*. 13 July 2010, <http://www.thenational.ae/news/world/middle-east/israel-paves-the-way-for-killing-by-remote-control>

“The tiny drone tank packing a pistol...” *Daily Mail*. 6 June 2016, <http://www.dailymail.co.uk/sciencetech/article-3628176/The-tiny-drone-tank-packing-pistol-Israeli-combat-robot-remote-controlled-Glock-shoot-enemies.html>

“Russian military to test ‘small & swift’ remote-controlled mini-turret.” *RT*. 20 January 2016, <https://www.rt.com/news/329553-mini-turret-test-russia/>

“The Kremlin’s Tiny Drone Tank Bristles with Weapons.” *Popular Mechanics*. 13 January 2016, <http://www.popularmechanics.com/military/weapons/a18948/russias-new-ground-combat-drone-uran-9/>

“Russians Launch Smart Bullet Effort in the Wake of U.S. Program.” *Kit Up*. 20 July 2016, <http://kitup.military.com/2016/07/russians-launch-smart-bullet-effort-in-the-wake-of-u-s-program.html>

“Smart Rifle Lets Shooters Share Video on Social Media.” *Defense Tech*. 22 March 2016, <http://www.defensetech.org/2016/03/22/smart-rifle-lets-shooters-share-video-on-social-media/>

“Meet the ‘Liberator:’ Test-Firing the World’s First Fully 3D-Printed Gun.” *Forbes*. 5 May 2013, <http://www.forbes.com/sites/andygreenberg/2013/05/05/meet-the-liberator-test-firing-the-worlds-first-fully-3d-printed-gun/#c0d08fe511e6>

“The Bullet that Could Make 3-D Printed Guns Practical Deadly Weapons.” *Wired*. 5 November 2014, <https://www.wired.com/2014/11/atlas-314-3-d-printed-guns-bullets/>

VIDEOS

“Syria - One more Machine Gun, controlled by a gamepad.” *Daily Motion (QasiounNewsAR video posting)*. 5 September 2015, <http://www.dailymotion.com/video/x34wncj>. 2:34 Minutes.

“FSA terrorists use remote-controlled US sniper-rifle to attack Syrians.” *LiveLeak*. 26 March 2013, http://www.liveleak.com/view?i=39f_1364585702. 1:58 Minutes.

“The Remote Controlled Sniper-Rifle Is Back For Action.” *Live Leak (Islamic State Affiliate video posting)*. 29 July 2014, http://www.liveleak.com/view?i=99c_1406651450. 1:07 Minutes.

“The Syrian Rebel RC Machine Gun.” *Military.com Video Center (Syria 2013 TV)*. 12 April 2013, <http://www.military.com/video/guns/machine-guns/the-syrian-rebel-rc-machine-gun/2296633217001>. 1:25 Minutes.

“FSA Weapons, MacGyver Style: Al-Tawhid weapon.” *Military.com com (Al-Tawhid video clip)*. 13 August 2013, <http://www.military.com/video/logistics-and-supplies/military-equipment/syrian-rebel-weapons-macgyver-style/2617171329001>. 8:23 Minutes.

“Libya rebels make weapons from scraps.” *YouTube (Al Jazeera English video posting)*. 14 June 2011, <https://www.youtube.com/watch?v=jCyRBUAEnEM>. 2:44 Minutes.

“FSA Invent a Robot in the Form of a Small Tank Carrying Different Weapons (رحال شي جال). (ةفلا تخم ةحل سلا لمحت ةري غص ةباب د لكش ىل ع توبر عرت خي)” *YouTube*. 2 May 2013, <https://www.youtube.com/watch?v=qdETEJf8NIE>. 6:23 Minutes.

“Remote Control Gun Made in Homs” by Syrian fighters.” *YouTube (Baynetna News video posting)* 11 July 2013, <https://www.youtube.com/watch?v=1m0iUlkoe8A>. 2:00 Minutes.

“Syrian 'rebels' hide behind remote controlled sniper.” *YouTube*. 15 August 2013, <https://www.youtube.com/watch?v=CvI0WhuvgeE>. 0:56 Minutes.

“Creative Syria Rebels Build Remote Controlled Rifles to Battle Dictator Assad 9-13-13.” *YouTube*. 13 September 2013, <https://www.youtube.com/watch?v=QogFEFm9qLQ>. 1:55 Minutes.

“Syrian ‘rebels’ hide behind remote controlled sniper.” *YouTube* (Islamic State Affiliate video posting). 15 August 2013, <https://www.youtube.com/watch?v=Cv10WhuvgeE>. 0:56 Minutes.

Warleaks, “Syrian Civil War - German World War 2 Era STG 44 Rifle Used By Syrian Rebels In Firefight.” *YouTube* (Syrian Rebel video posting). 16 June 2015, <https://www.youtube.com/watch?v=2OBNrfKjE0w>. 1:30 Minutes.

“سي يک يب شاشر عي نصرت نيده اجمل ا يدي اى لع لى اع ت هللا لى فب مت” *YouTube* (Ajnad al-Sham Islamic Union video posting). 20 March 2014, <https://www.youtube.com/watch?v=vHz19XM5Cg8>. 1:30 Minutes.

“Homemade robotic machine gun made by a local Kurd for Peshmerga.” *YouTube* (Kurdish social media video posting). 27 March 2015, https://www.youtube.com/watch?v=gKqsanw_TAg. 0:49 Minutes.

“ISIL’s remote controlled machine gun.” *YouTube* (*Euronews* video posting). 4 April 2016, <https://www.youtube.com/watch?v=BOY1tVijRxA>. 1:12 Minutes.