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# **Violent Extremist Innovation: A Cross-Ideological Analysis**

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*This material is based upon work supported by the U.S. Department of Homeland Security under Grant Award Number 20STTPC00001-01-00. The views and conclusions contained in this document are those of the authors and should not be interpreted as necessarily representing the official policies, either expressed or implied, of the U.S. Department of Homeland Security.*

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# Executive Summary

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## Overview

- Terrorist actors are constantly innovating to circumvent the state. This paper compares the efforts of both salafi-jihadi and racially and ethnically motivated violent extremists (REMVE).
- Salafi-jihadi actors are innovating more dynamically and potently than their REMVE counterparts.
- This is mostly due to salafi-jihadist innovation originating from ungoverned spaces that are permissive environments for terrorist training, innovation and attack-planning.
- First deployment of these tactics tends to happen either in active combat zones or in fragile states highly susceptible to terrorist attack.
- Two case studies are considered in this paper: vehicle-ramming attacks and the use of drones.

## Doctrine

- Salafi-jihadis believe that God has commanded them to innovate in all spheres of life (except that of religion). They are therefore promiscuous in their embrace of technology and material output.
- They distinguish between scientific/material creation, which is neutral – such as a mobile phone, a knife or a vehicle – and civilisational creation, which is linked to a particular viewpoint of religion or life, such as an ornamental crucifix. Innovation with the latter is forbidden, while it is permissible with the former provided the new use does not contradict Islamic law, the sharia.
- REMVE actors regard innovation as a strategic necessity to ensure the survival of the movement. Innovation is therefore viewed in much more practical terms, as a means to evade capture by state authorities and by which to strike against the state.

## Vehicle-ramming Attack

### *Salafi-jihadis*

- The first use of this as a jihadist tactic can be linked to the 1981 attack on the Iraqi embassy in Beirut, Lebanon, in order to deliver a suicide vehicle-borne improvised explosive device (SVBIED).
- This type of attack gained significant popularity after the 2003 invasion of Iraq. It has since been used in theatres across the world, including Afghanistan, Somalia and, increasingly, the Chad Basin.
- Later uses involved deploying vehicles to target civilian populations in the Israeli-Palestinian conflict before al-Qaeda in the Arabian Peninsula tried to popularise the tactic with a broader audience through its magazine *Inspire*.
- The turning point came in 2016 with a terrorist attack in Nice on Bastille Day. A series of similar attacks followed across Europe.

## *REMVE*

- REMVE actors have used vehicle attacks since 2017 both as terrorist plots and to target individuals in mass civil protests.
- The first incident of protester targeting occurred in August 2017 during the Unite the Right rally in Charlottesville.
- Between May and September 2020, around 104 incidences of vehicle-ramming were recorded, mostly at Black Lives Matter protests.
- Associated gamification has occurred within the REMVE ecosystem with the creation of games such as *Black Lives Splatter*, where users are encouraged to run over protesters.
- Vehicle-borne terrorist attacks have occurred in the United Kingdom and Canada. The first was in the UK in June 2017 when a van was driven into Muslims leaving a mosque following prayers during the holy month of Ramadan.

## **Drones**

### *Salafi-jihadis*

- Drones have seen widespread innovation by Islamic State on the battlefield in Syria and Iraq for three purposes: propaganda, hostile reconnaissance and payload delivery.
- Propaganda uses relate to the production of high-quality recruitment videos showcasing Islamic State's military abilities and, previously, life within its state.
- Hostile reconnaissance mostly consists of using aerial advantages to understand the battlefield. This includes observing troop movements, lines of attack and the deployment of blockades in urban combat landscapes. Another way Islamic State has used drones in this regard is to use aerial positioning to relay real-time command and control instructions to fighters on the ground.
- Drones were also adapted to deliver small payloads, such as grenades, in Syria and Iraq.

### *REMVE*

- Innovation by REMVE actors in this regard has been more modest.
- They have utilised drones for propaganda in more simplistic ways, such as to provide aerial footage of their demonstrations or events before then suggesting that mainstream media outlets have downplayed their numbers.
- Terrorists have also used drones in a limited number of cases to conduct hostile reconnaissance of targeted sites, such as of mosques in Christchurch, New Zealand.
- There was not yet been any REMVE adaptation of drones for payload delivery, which is possibly due to the difficulty of acquiring a suitable payload for such a device in Western countries.

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# 1 Introduction

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The success of terrorist violence is largely contingent on two things: luck and the perpetrator's ability to outsmart the counterterrorism and law enforcement practitioners working to stop them.<sup>1</sup> While would-be attackers cannot change how lucky or unlucky they might be on the day of an operation, they and the organisations behind them (if, that is, they are not acting alone) can proactively increase their ability to navigate opponents' countermeasures.

One of the principal mechanisms – if not the principal mechanism – by which this can be achieved is malevolent creativity. Malevolent creativity is a form of creativity that “is deemed necessary by some society, group, or individual to fulfil goals they regard as desirable, but [which] has serious negative consequences for some other group, these negative consequences being fully intended by the first group.”<sup>2</sup> In the context of terrorism, this phenomenon may refer to both violent activities (for example, attack planning and deployment) and non-violent activities (for example, recruitment and financing).<sup>3</sup> When implemented in the real world, ideas born of malevolent creativity become innovations, which can be, in the context of terrorism at least, tactical, strategic or organisational in nature.<sup>4</sup>

Today, with the accelerating proliferation of everything from commercial drone technologies to decentralised web platforms and 3D printing systems, malevolent creativity and terrorist innovation are receiving ever greater attention within academic and practitioner circles. However, important aspects of these phenomena remain understudied. Foremost among these is the issue of learning and uptake – that is to say, the means by which innovative processes and technologies are observed and mimicked after their initial point of emergence. While some have explored how and when malevolent creativity becomes terrorist innovation, these analyses usually focus on how these processes operate within single organisations or ideologies, rather than how they work across social movements or between organisations and/or ideologies. Research on the use of suicide tactics is one notable exception, but discussions of their proliferation tend to be restricted to the context of Islamist terrorism.<sup>5</sup> This means that there is a gap in the research literature, one that is widening as terrorist violence becomes even more disconnected from the organisations and movements that call for it.

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1 Bruce Hoffman, 'Rethinking terrorism and counter-terrorism after 9/11,' *Studies in Conflict and Terrorism* 25:5, 2002, 303–316.

2 David H. Cropley, James C. Kaufman, and Arthur J. Cropley, 'Malevolent Creativity: A Functional Model of Creativity in Terrorism and Crime,' *Creativity Research Journal* 20:2, 2008, 105–115.

3 Paul Gill, John Horgan, Samuel T. Hunter, Lily D. Cushenbery, 'Malevolent Creativity in Terrorist Organisations,' *The Journal of Creative Behavior* 47:2, 2013, 125–51.

4 Maria Rasmussen and Mohammed Hafez, 'Terrorist innovations in weapons of mass effect: Preconditions, causes and predictive indicators,' Defense Threat Reduction Agency: Advanced Systems and Concepts Office, (2010), 2.

5 Michael C. Horowitz, 'Nonstate Actors and Diffusion of Innovations: The Case of Suicide Terrorism,' *International Organisation* 64:1, 2010, 33–64; Victor Asal and R. Karl Rethemeyer, 'The Nature of the Beast: Organisational Structures and the Lethality of Terrorist Attacks,' *The Journal of Politics* 70:2, 2008, 437–49.

This report sets out to correct this imbalance, even if only partially. It does this by observing how and why innovation has occurred in the context of two forms of ideologically motivated violent extremism: salafi-jihadism and racially and ethnically motivated violent extremism (REMVE).<sup>6</sup> Addressing each ideological subset in turn, it considers first how the issue of innovation is conceptualised in general within the broader ideological movement (or, indeed, archipelago of movements) before then taking into account two specific innovation case studies: vehicle-ramming and the use of drones on and off the battlefield. Having discussed how and why these innovations came to be, the report comparatively analyses what appears to be key drivers of and obstacles to innovation that are relevant across ideological bounds.

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6 Per the US government definition, REMVE activism "encompasses the potentially unlawful use or threat of force or violence in furtherance of ideological agendas derived from bias, often related to race or ethnicity, held by the actor against others or a given population group. REMVEs purport to use both political and religious justifications to support their racially- or ethnically-based ideological objectives and criminal activities": 'Strategic Intelligence Assessment and Data on Domestic Terrorism: Submitted to the Permanent Select Committee on Intelligence, the Committee on Homeland Security, and the Committee of the Judiciary of the United States House of Representatives, and the Select Committee on Intelligence, the Committee on Homeland Security and Governmental Affairs, and the Committee of the Judiciary of the United States Senate,' *Federal Bureau of Investigation & Department of Homeland Security*, May 2021. <https://www.fbi.gov/file-repository/fbi-dhs-domestic-terrorism-strategic-report.pdf>



## 2 Salafi-Jihadist Terrorism

Salafi-jihadis have long been preoccupied with the notion of technological or tactical innovation. As discussed below, due to its perceived utility on the battlefield, there is generally speaking a highly permissive attitude towards it in this subset of militant Islamism. In practice, this translates into the widespread and continuous adoption of new technologies and tactics, as well as the systematic fostering of creative approaches towards violence in both battlefield and non-battlefield contexts.

This section maps out the key contours of salafi-jihadist thought on innovation before assessing how this has manifested in the context of vehicle-ramming (that is, a tactical innovation) and drones (a technological innovation).

### Doctrine

The late Grand Mufti of Saudi Arabia, Ibn Baz, once wrote in response to a question about the appearance of new technologies not present in the time of the Prophet Muhammad: “Islam encourages science and encourages what benefits the [Muslim] people, as the Prophet (peace be upon Him) has said: ‘Be keen for what benefits you and seek help in God.’”<sup>7</sup> He further explained that, “if the people invent something that contravenes the law of God when they use it, it is forbidden from the perspective of their using it, not from the perspective that was invented [in the first place].”<sup>8</sup>

Although Ibn Baz was patently not a salafi-jihadi, his position encapsulates conservative Islamic attitudes towards non-religious innovation, attitudes that are broadly shared by salafi-jihadist groups such as Islamic State (IS) and al-Qaeda. In particular, it is not novelty that makes something forbidden, but whether the use of it leads to an act that is forbidden by Islamic law.

In practice, this means that salafi-jihadis approach the issue of innovation with a high degree of flexibility. A new tactic, strategy or technology just needs to be framed as beneficial to the Muslim community and not in direct contravention of religious law (which is an inherently plastic legislative framework) in order for it to be permitted, even if it would otherwise be discouraged. Consider, for example, the use of suicide operations. While the act of committing suicide is expressly forbidden on religious grounds, the act of killing oneself

<sup>7</sup> ‘Fatwas of the Great Mosque: Islam’s position on technology and modern science,’ binbaz.org.sa. <https://binbaz.org.sa/fatwas/1485/%D9%85%D9%88%D9%82%D9%81-%D8%A7%D9%84%D8%A7%D8%B3%D9%84%D8%A7%D9%85-%D9%85%D9%86-%D8%A7%D9%84%D8%AA%D9%83%D9%86%D9%88%D9%84%D9%88%D8%AC%D9%8A%D8%A7-%D9%88%D8%A7%D9%84%D8%B9%D9%84%D9%85-%D8%A7%D9%84%D8%AD%D8%AF%D9%8A%D8%AB>.

<sup>8</sup> *ibid.*

with the explicit intention of furthering the interests of the Muslim community is something that is openly encouraged.<sup>9</sup>

To be sure, these waters are somewhat muddied when it comes to the use of technology or tactics that have been developed by non-Muslims, but salafi-jihadist extremists have a workaround for that. Generally speaking, supporters of such groups as IS and al-Qaeda do not like to use or buy things that have been developed by those they consider to be the enemy. In the first half of 2021, for example, IS *munasirin* took to online forums to ask whether it was really permissible to be inoculated by COVID-19 vaccines that were created by Christian, Hindu and Buddhist scientists.<sup>10</sup> IS's official position was that, while vaccines created by Muslims would be preferable, in the absence of one, existing vaccines produced by non-Muslims were permitted.<sup>11</sup>

This idea builds upon the broader utilitarian conceptualisation of innovation established within Islamic circles that distinguishes between 'civilisational culture' and 'material objects'.<sup>12</sup> What this means in practice is that while certain physical objects, such as an ornamental crucifix, are forbidden because they depict a certain (in this case Christian) viewpoint of life, their material form is itself considered neutral. By extension, a mobile phone or a COVID-19 vaccine would be considered permissible because the use of either is not specific to any particular (non-Muslim) culture, nor does using them denote anything about the belief system of the user. This would be true even if the mobile phone or vaccine was sold by 'Crusaders' (for example, an American company), designed by 'Zionists' (such as Israeli technologists) or assembled by 'Communists' (for example, in a Chinese factory).

This broad-based ascription of neutrality to technology means that salafi-jihadis are generally open to exploring innovation in all forms, but especially when it comes to the adoption of new military technologies. This has seen them launching regular fundraising campaigns encouraging donations for the purchasing of modern military weapons, regardless of their provenance. In 2019, for example, a fundraising campaign called Equip Us was launched by the al-Qaeda-linked Fa-Athbatu Coalition in Syria.<sup>13</sup> That same year, a similarly oriented fundraising campaign was endorsed by Hay'at Tahrir al-Sham, the former al-Qaeda affiliate that presides over much of northwest Syria.<sup>14</sup>

When it comes to tactics, including but not limited to terroristic violence, salafi-jihadis embrace innovative methods with similar enthusiasm. This is because, as a rule, tactics are generally not seen as culture- or civilisation-specific. Consider, for example, that Shi'ite Islamists were among the first to deploy suicide operations in the modern age, but that this fact has had no bearing on how suicide

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9 This position draws on a substantial body of jihadist literature that dates back many hundreds of years. Ibn Taymiyya, for example, wrote a 79-page treatise on the subject, *Qa'ida fi-l-inghimas fi-l-'adu wa hal yubah?*, and an entire chapter is devoted to it in Ibn al-Nahaas al-Dumyati's work, *Mashari' al-ashwaq ila masari' al-'ushaq*. In both instances, the authors argue that it is not only permissible but desirable for Muslims to risk their lives proactively when attacking a more numerous and better equipped enemy (provided, that is, that their intention is sound). These works, and others like them, are routinely drawn upon by modern-day salafi-jihadist jurists seeking to justify the use of suicide tactics religiously, foremost among them, IS's most important theological influence, Abu 'Abdullah al-Muhajir, an Egyptian scholar whom Abu Mus'ab al-Zarqawi himself credited with introducing suicide tactics into IS's military repertoire.

10 Discussion on prominent pro-IS supporter forum on Telegram, 'The Reality of Conflict,' 10 March 2021.

11 Islamic State, 'Indeed the force of your Lord is strong,' *al-Naba'* #220, 6 February 2020.

12 Taqjuddin an-Nabhani, *Concepts of Hizb ut-Tahrir (Mafahim Hizb ut-Tahrir)*, London: undated, 30, 75.

13 A sample image of the campaign can be accessed here: <https://justpaste.it/samplajahizunaimage>.

14 Aymenn Jawad al-Tamimi, 'The Popular Resistance Brigades: Interview,' [aymennjawad.org](http://www.aymennjawad.org), 18 September 2019. Accessed at: <http://www.aymennjawad.org/2019/09/the-popular-resistance-brigades-interview>.

operations are perceived ideologically. On the back of this perception of cultural neutrality, salafi-jihadis openly encourage the adoption of new and novel approaches towards violence, as well as the uptake of historical methods tried and tested in other contexts of insurgency (something that sees them regularly referencing the work of Mao and Guevara). In justifying the religious grounds of such actions, they often invoke verse 8:60 of the Quran, which reads:

*“The Almighty has said: ‘And prepare for them what you can from force and tying of forces by which you can terrify the enemy of God and your enemy, and others besides them you do not know, but God knows them.’”<sup>15</sup>*

This specific verse is used as an introduction to a wide array of manuals and instructional materials produced and disseminated by salafi-jihadis on the topic of asymmetric warfare.<sup>16</sup> It appears, for example, at the start of a publication entitled, ‘Types of Explosives for the Egyptian Salafis’,<sup>17</sup> which further explained that “the [global Muslim community] is now occupied from east to west” and that new, more asymmetric approaches are required when “undertaking the obligation of *jihad*.”<sup>18</sup> Per this document, innovation itself is a fundamental pillar of *jihad* because it is only through innovation that Muslims will ever be able to prevail over their better-armed and more numerous enemies.<sup>19</sup>

Generally, then, few things are out of bounds for salafi-jihadis when it comes to innovation, at least in principle, if it means that they will be better able “to confront the technology of the disbelievers” without doing something definitively “un-Islamic”.<sup>20</sup> Through this lens, the use of new technologies (even those that are produced by the “enemies of Islam”) can be legitimised and acts that are usually prohibited on religious grounds (like suicide and theft) can be reframed and rendered permissible.<sup>21</sup> In summary, then, for most salafi-jihadist groups and their supporters, innovation is something that is encouraged on account of the perception that it can make up for technological and resource asymmetries, aid performance on the battlefield and enable more impactful forms of violence, three things that drove the uptake of the methods featured in each of the case studies in innovation discussed below.

## Case Study I: Vehicle-ramming

Vehicle-ramming has long been a go-to tactic for Islamists, albeit not for the reasons it is deployed for most prominently today. In 1981, for example, Shi’ite militants used vehicle-ramming to breach the perimeter of the Iraqi embassy in Beirut, Lebanon, before detonating their explosives-laden vehicle in one of the first modern-day suicide operations.<sup>22</sup> This approach was repeated two years later when a

<sup>15</sup> Quran 8:60.

<sup>16</sup> For example, ‘Raji Afw Rabbihi, Ibn al-Islam,’ ‘Course on manufacturing explosives particular to the victorious fighting sect for the truth until the order of God comes,’ (undated), 4.

<sup>17</sup> ‘Group of explosives for the Egyptian Salafis,’ a publication based on materials gathered from jihadist forums by a group calling itself the ‘Salafi Fighting Group in the Land of al-Kinana (Ansar Allah)’ (undated).

<sup>18</sup> *ibid.*, 1–2.

<sup>19</sup> *ibid.*

<sup>20</sup> ‘The lone mujahid’s guide to forensic investigation,’ Shahadh al-Himmam Foundation (undated, probably 2018–2019), 1.

<sup>21</sup> Issue 8 of *Rumiyah*, IS’s magazine, noted, “just as the blood of the kafir is halal to shed, so too is the kafir’s wealth halal to take.” Islamic State, *Rumiyah* #8, AlHayat Media Center, April 2017.

<sup>22</sup> ‘Bomb wrecks Iraqi embassy in Beirut,’ *New York Times*, 16 December 1981. Accessed at: <https://www.nytimes.com/1981/12/16/world/bomb-wrecks-iraqi-embassy-in-beirut.html>.

vehicle bomb was driven through the perimeter of the US marine barracks in Beirut prior to being blown up, levelling the building and killing hundreds.<sup>23</sup>

In the years since, vehicle-ramming has been adopted across the Islamist militancy spectrum, such that it is now a core component of both salafi-jihadist terrorism and salafi-jihadist insurgency, as well as other militant ideologies. In the terrorism context, it has been deployed in numerous attacks on civilians, a trend driven by the simplicity that characterises vehicle-ramming attacks. In the insurgency context, however, the more conventional breaching functionality of vehicle-ramming has continued to hold sway, becoming ever more elaborate in nature.

## *Attacks*

The first use of vehicle-ramming as an attack modus operandi in and of itself by Sunni Islamist terrorists was in 2008, when Palestinian militants deployed three such attacks against Israeli civilians in the course of a few months. By 2015/16, vehicle-ramming attacks were occurring almost monthly.<sup>24</sup>

Concurrent with the proliferation of the tactic in Israel-Palestine, salafi-jihadist terrorist groups had also begun to encourage their supporters to deploy it. Importantly, they encouraged them to use vehicle-ramming not just as a way to facilitate another form of attack – as was the case with the killing of Lee Rigby in London in 2013, in which a car was used to incapacitate the victim prior to an attempted beheading<sup>25</sup> – but also as the principal form of attack. The first and by far the bloodiest such incident occurred in the summer of 2016, when a heavy goods vehicle ploughed through a crowd in the French city of Nice.<sup>26</sup> While a number of similar attacks have occurred in the time since then, in such places as London, Barcelona and Berlin,<sup>27</sup> almost all of them perpetrated by supporters of Islamic State, the Nice incident stands out due to its unprecedented impact.<sup>28</sup>

On account of the frequency with which these attacks have been perpetrated by its supporters and the enthusiasm with which the tactic in general has been promoted by its media foundations, IS is considered the main proponent of vehicle-ramming today. However, it was first explicitly promoted as an efficient asymmetric innovation by al-Qaeda in the Arabian Peninsula (AQAP) in its English-language magazine *Inspire* in 2010.<sup>29</sup> The article in question, which was entitled 'The Ultimate Mowing Machine', gave detailed advice on how to pull off such attacks, including information relating to target selection and what to do following the initial ramming (as in the case of the 2013 Rigby attack). However, the article did not precipitate any immediate response in the West or elsewhere; in other words, the 'creative' idea

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23 'Bombings in Beirut,' *New York Times*, 24 October 1983. Accessed at: <https://www.nytimes.com/1983/10/24/nyregion/monday-october-24-1983-bombings-in-beirut.html>.

24 'Wave of terror 2015-2021,' Israel Ministry of Foreign Affairs, 16 June 2021. Accessed at: <https://mfa.gov.il/MFA/ForeignPolicy/Terrorism/Palestinian/Pages/Wave-of-terror-October-2015.aspx>.

25 'The 2017 attacks: What needs to change?' Intelligence and Security Committee of Parliament, 22 November 2018. Accessed at: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/776162/HC1694\\_The2017Attacks\\_WhatNeedsToChange.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/776162/HC1694_The2017Attacks_WhatNeedsToChange.pdf). 39.

26 'Nice attack: What we know about the Bastille Day killings,' BBC News, 19 August 2017. Accessed at: <https://www.bbc.co.uk/news/world-europe-36801671>.

27 'The 2017 attacks: What needs to change?'

28 Footage from the attack regularly features in the highest profile IS propaganda videos. It is touted as one of its greatest terrorist successes in, for example, 'Flames of War 2', the last full-length video published by the AlHayat Media Center. Islamic State, 'Flames of War 2,' AlHayat Media Center, 29 November 2017.

29 Al-Qaeda in the Arabian Peninsula, 'The ultimate mowing machine,' *Inspire*, Malahem Media, October 2010.

was there, but no one set out to implement it. The second high-profile point at which vehicle-ramming was specifically promoted was in a 2015 statement by Abu Muhammad al-'Adnani, then spokesman of IS.<sup>30</sup> While this was seen in some circles as the principal inspiration for the Nice attack, 'Adnani's advice about vehicle-ramming was cursory at best, nestled amid much lengthier directives regarding other forms of attack. On that basis, it is improbable that 'Adnani's words specifically presaged the operation.

A more plausible explanation for the recent increase of vehicle-ramming attacks is the notion of contagion. This tactic is perceived to maximise the chances of success while minimising the risk of detection by law enforcement services. This means that, in the wake of each successful vehicle-ramming attack, the appeal of such attacks grows and is further popularised. With that in mind, the proliferation of vehicle-ramming attacks should be seen more as the result of bottom-up influences – first and foremost that of Mohamed Lahouaiej-Bouhlel, the man responsible for the Nice attack in 2016 – than as the outcome of top-down directives from the likes of either al-Qaeda or IS.

### *Breaching*

The other context in which vehicle-ramming arises today is directly reminiscent of how it was deployed in Beirut in 1981 and 1983: as a means by which to breach the defences of fortified targets. In this context, vehicle-ramming should be seen more as an innovative enabler than a form of attack in and of itself.

Vehicle-ramming has long been one of the core components of salafi-jihadist suicide operations. While its utility is negligible in the context of attacks on unprotected soft targets such as markets, it has proved to be an essential part of attacks on fortified premises, which includes government buildings, embassy compounds and prisons.<sup>31</sup>

The prominence of vehicle-ramming as an enabler of suicide vehicle-borne improvised explosive device (SVBIED) is largely down to IS, which used the technique across Iraq in the 2000s to great effect before integrating it into its Syrian arsenal in the early 2010s. A decade later, vehicle-ramming as an SVBIED precursor was in regular use across the Islamist spectrum, including in Afghanistan, Somalia and, increasingly, the Chad Basin, where ISWAP, IS's local affiliate, has used it to kick off large-scale assaults on Nigerian Army outposts.<sup>32</sup>

In response to the Iraqi experience of the 2000s, would-be targets of salafi-jihadist SVBIED attacks have generally become better fortified.<sup>33</sup> As a result, in order to be able to penetrate these fortifications, the breaching capabilities of SVBIEDs have had to improve as well. This has seen insurgents diversifying by integrating larger vehicles such as bulldozers and tankers into their SVBIED arsenals, not

<sup>30</sup> Abu Muhammad al-'Adnani, 'Indeed your lord is ever watchful,' Furqan Foundation, September 2014.

<sup>31</sup> See, for example, Jessica D. Lewis, 'Al-Qaeda in Iraq Resurgent,' Institute of War, September 2013; Hugo Kaamen, 'Car bombs as weapons of war: ISIS's development of SVBIEDs, 2014–2019,' Middle East Institute, April 2019.

<sup>32</sup> Hugo Kaamen (@HKAamen), 'ISWAP are ramping up their SVBIED attacks. Today another SVBIED, driven by 'Abu Muhammad al-Ansari', allegedly detonated inside an NA base at Damasak, Borno, supposedly killing 12. This follows a double SVBIED attack on March 8 & an SVBIED on Feb. 22 - h/t @CaillbreObscura,' Tweet, 15 March 2021. Accessed at: <https://twitter.com/HKAamen/status/1371499604613681156>.

<sup>33</sup> See, for example, 'Drone footage of failed ISIS double VBIED attack,' Military.com, 16 February 2017. Accessed at: <https://www.military.com/video/operations-and-strategy/improvised-weapons/drone-footage-of-failed-isis-double-vbied-attack/5322807901001>.

to mention adding armour and/or rocket-launching capabilities.<sup>34</sup> Increasingly, these innovations are reliant on technical expertise rather than simple brute force; access to such expertise necessitates top-down buy-in and substantial resource acquisition, meaning that the process of innovation is, in this case, organisation-driven.

As things stand currently, the relative complexity of ramming-enabled SVBIED attacks means that they are more or less confined to conflict zones and territories that are immediately adjacent to conflict zones. This does not, however, preclude their re-emergence in Western contexts.

## *Trajectory*

Vehicle-ramming has been an essential tool in the salafi-jihadist arsenal for decades both as a form of attack in itself and as an enabler of other forms of attack. In general, in recent years, its principal manifestation in overtly terroristic contexts has been the former – vehicles instrumentalised as weapons – but this does not preclude the reappearance of vehicle-ramming as an enabler of SVBIED operations.

Given the ease with which would-be terrorists are able to access and subsequently weaponise vehicles,<sup>35</sup> it seems likely that ramming attacks will continue to occur with relative frequency in years to come. However, it is important to bear in mind that the tactic's simplicity, which is one of its principal strengths and appeals, is also a limiting factor. After all, there are only so many ways in which vehicle-ramming can be deployed. As such, with each new iteration on the tactic, law enforcement and counterterrorism practitioners are able to adjust and/or expand the way in which they respond, ultimately reducing the likelihood with which it can be successfully, or at least impactfully, deployed.<sup>36</sup>

## **Case Study II: Drones**

Salafi-jihadist militants have long sought to develop and deploy their own unmanned aerial vehicles (UAVs; more commonly known as drones).<sup>37</sup> However, while the aspiration has been present for well over a decade, it is only recently that that desire has translated into a meaningful capability, something that was enabled by a confluence of technology, opportunity and organisational buy-in (and thus dedicated expertise and resources).

In recent years, commercial UAV technologies have evolved rapidly, leading to a massive proliferation in off-the-shelf drones, many of which are amenable to adaptation and subsequent deployment on the battlefield. This period of proliferation coincided with several sub-state conflicts involving Islamists – the wars in Syria, Iraq and Afghanistan, to mention but three – that together acted as a testing ground for a range of drone-based battlefield innovations. Generally speaking,

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<sup>34</sup> Islamic State, 'We will surely guide them to our ways,' Nineveh Province Media Office, 17 May 2017.

<sup>35</sup> 'The 2017 attacks: What needs to change?'

<sup>36</sup> For an example of how this law enforcement innovation has panned out, see: William Booth, 'British police deploy giant futuristic nets in bid to stop vehicle attacks by terrorists,' *Washington Post*, 11 September 2017. Accessed at: <https://www.washingtonpost.com/news/worldviews/wp/2017/09/11/british-police-deploy-giant-futuristic-nets-in-bid-to-stop-vehicle-attacks-by-terrorists/>. See also, 'The 2017 attacks: What needs to change?'

<sup>37</sup> As noted in, for example, Håvard Haugstvedt, 'A flying threat coming to Sahel and East Africa? A brief review,' *Journal of Strategic Security* 14:1, 2000, 92–105.

these innovations have been geared towards either symbolism and propaganda (that is, demonstrating capability and sowing fear) or reconnaissance (that is, using UAVs to guide SVBIEDs).<sup>38</sup>

### *Propaganda*

In this context, the potential utility of UAVs is twofold: drones can both produce propaganda and serve as propaganda. Once seen as a novelty, drones are now used to film video content regularly, with groups such as Islamic State, al-Qaeda and the Afghan Taliban all regularly featuring aerial footage in official video output. Drone-mounted cameras enable the glamorisation of civilian and military activities alike.<sup>39</sup>

As objects of propaganda themselves, though, drones enable Islamist groups to at least notionally show they are “taking back the skies”, which their enemies have historically monopolised (and to great effect). The Shi’ite militant group Hezbollah was one of the first violent non-state actors to do this, if not the first.<sup>40</sup> Following an Israeli Defence Forces incursion into Lebanese airspace in 2005, Hezbollah flew Iran-supplied Mirsad-1 drones over the Israeli city of Acre. The drones carried no payloads and were only in Israeli airspace for about nine minutes, but it was their mere presence there, in the skies of Israel, that mattered.<sup>41</sup>

In the late 2010s, salafi-jihadis started to deploy their own drone arsenals, this time arming them with small explosive devices. IS in particular advanced this practice, devoting an entire research unit along with substantial financial resources to further development of the technology, which it had been using offensively against its enemies across Iraq and Syria. For the most part, the material impact of these aerial attacks was modest, but that was not why they were deployed. Rather, the incentive was the psychological dividend, with firsthand accounts from the battle for Mosul in 2016 noting that Iraqi Security Forces (ISF) soldiers were more afraid of the sound of IS UAVs than they were of the sight of its armoured SVBIEDs.<sup>42</sup>

### *Reconnaissance and Aerial Attacks*

Besides their use as or for propaganda, drones have also increasingly been deployed for hostile reconnaissance in recent years. The ability to scout enemy positions from the air has enabled such groups as IS, Hay’at Tahrir al-Sham and the Afghan Taliban to transform their attack capabilities, using aerial reconnaissance to inform both offensive and defensive missions.

In recent memory, the most prominent context in which UAVs were used in this way was during IS’s defence of Mosul and Raqqa.<sup>43</sup> In each of these battles, SVBIEDs were its defensive weapon of choice.

38 See Charlie Winter, Shiraz Maher and Aymenn Jawad al-Tamimi, ‘Understanding salafi-jihadist attitudes towards innovation,’ ICSR, January 2021.

39 See, for example, Islamic State, ‘The territories of the Caliphate,’ Euphrates Province Media Office, 1 October 2017.

40 Robert J. Bunker, ‘Terrorist and insurgent unmanned aerial vehicles: uses, potentials, and military implications,’ Strategic Studies Institute and US Army War College Press, August 2015, 14.

41 ‘Hezbollah Mirsad-1 UAV Penetrates Israeli Air Defenses,’ Defense Industry Daily, 20 April 2005.

42 Second author interview with embedded reporter present during the battle for Mosul, September 2017.

43 Anthony Capaccio, ‘Extensive Islamic State drone use raising risks in Mosul battle,’ Bloomberg, 26 October 2016.

They were the equivalent of strategic artillery, something that enabled IS not only to target large numbers of troops but also to damage and/or disable enemy armour.<sup>44</sup> Two of the principal ways the ISF in Mosul and the Syrian Democratic Forces in Raqqa attempted to respond to IS's unprecedentedly liberal deployment of SVBIEDs was by creating roadblocks or disabling urban junctions. The former involved parking buses, cars and vans across roads, with the latter focusing on placing large explosive charges in the middle of crossroads.<sup>45</sup> IS used drones to navigate its suicide operatives around these obstacles in real time, identifying weak spots and vulnerable routes from the air to maximise the chances that its payloads could be delivered successfully.

For reconnaissance purposes such as these, commercial drones equipped with high-grade cameras were sufficient and, unlike the UAVs that were mounted with grenades and other explosive charges, they required no adjustments.<sup>46</sup> However, their effective use required skill and expertise, something that IS actively fostered by establishing schools for military drone photography.<sup>47</sup> On that basis, at least latterly, this particular subset of drone innovation has been characterised by top-down processes of creative implementation.

## *Trajectory*

Having first been introduced into the non-state actor repertoire in 2005, UAVs have become an increasingly fundamental part of salafi-jihadist asymmetric warfare. While IS's use of them to drop bombs behind enemy lines is the most prominent instance of their deployment, it is not the most significant. Rather, it is the reconnaissance utility of UAVs – something that was trialled in Syria and perfected in Iraq before being rolled out globally – that stands to have a more lasting impact on global security. Deployed correctly, drones can facilitate both pre-operation planning and real-time targeting, something that dramatically enhances the salafi-jihadist strategic arsenal.

To date, drones have not been directly implicated in salafi-jihadist terrorist attacks outside conflict theatres. However, in 2018, the director of the Federal Bureau of Investigation warned that UAVs were likely soon to feature in attacks on the United States “given their retail availability, lack of verified identification requirement to procure, general ease of use, and prior use overseas.”<sup>48</sup> If that were to happen, UAVs could either offer the delivery of explosive payloads or facilitate pre-attack and real-time reconnaissance. To date, though, it seems that the barriers to their acquisition and deployment by would-be terrorists have been too high.

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44 See Charlie Winter, 'War by suicide: A statistical analysis of Islamic State's martyrdom industry,' ICCT, March 2017; and J. W. Lewis, 'Precision terror: Suicide bombing as control technology,' *Terrorism and Political Violence* 19:2, 2002, 223–45.

45 Christian Triebert, 'Mapping Mosul's SVBIED attacks,' Bellingcat, 9 January 2017.

46 Ash Rossiter, 'Drone usage by militant groups: exploring variation in adoption,' *Defense & Security Analysis*, 34:2, 2018, 113–26, DOI: 10.1080/14751798.2018.1478183.

47 One of these institutes was featured in Islamic State, 'Knights of the ministries,' Nineveh Province Media Office, 25 January 2017. See image in Charlie Winter (@charliewinter), "397. It also featured teen suicider who discussed media – included footage from #IS institute for aerial photography (note tablet on desk)," Tweet, 31 January 2017. Accessed at: <https://twitter.com/charliewinter/status/826408345179398144>.

48 Christopher Wray, 'Threats to the homeland,' Statement Before the Senate Homeland Security and Governmental Affairs Committee, 10 October 2018. Accessed at: <https://www.fbi.gov/news/testimony/threats-to-the-homeland-101018>.



## 3 Innovation and REMVE

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Over the course of the last decade or so, the REMVE threat landscape in the West has transformed. This transformation has been driven by a paradigmatic shift from structured groups (a dynamic that continues to characterise salafi-jihadist militancy) to more amorphous movements of threat actors who are radicalised through a combination – or, to quote John Cohen, the Department for Homeland Security (DHS) Coordinator for Counterterrorism and Assistant Secretary for Counterterrorism and Threat Prevention Policy, a “salad bar” – of ideas, ideologies and grievances.<sup>49</sup>

The new character of the REMVE movement or, rather, set of movements means that most domestic extremists, wherever they are active, do not fall neatly into established organisational categories. Notwithstanding these blurred lines, many, if not most of the threat actors in this increasingly heterogeneous space are bound by the belief that innovation and asymmetry can win the ‘race war’ and, accordingly, must be fostered at both strategic and individual levels.

### Doctrine

At its core, REMVE innovation is incentivised because it is seen as a way to deploy ever more asymmetric forms of violence. In that sense, innovation is perceived to afford REMVE threat actors a means with which to sidestep the ‘system’ because it enables the autonomous development of new tools and tactics that are not reliant on the ingenuity of the ‘enemy’. In connection with this notion of technological autonomy (or sovereignty), innovation is seen as a way to foster self-sufficiency and self-reliance, two pillars of REMVE culture. After all, not having to rely on products or technologies created by big corporations or the government, both of which many REMVE actors believe are continually monitoring them, is a foundational aspiration of this ideological current.

On that basis, innovation by REMVE threat actors is seen as essential to their strategic modus operandi, a way to remain unpredictable and augment their asymmetrical capabilities. This belief is set out and reiterated across countless REMVE doctrinal documents.

For example, a recent publication circulated across accelerationist networks on Telegram stated that “terror is the language of the unheard” and that, to get their message across, “the end more than justifies the means, and by any means necessary, we will push the system off the cliff and those who clutch on to it as it sinks into the sea forever.”<sup>50</sup> The notion that “the end more than justifies the means” is a reference to James Mason’s book *Siege*, in which he asserts that, in pursuit of the “highest goal [...] all is permitted.”<sup>51</sup>

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49 John Cohen, ‘Opening remarks at Envision NCITE Annual Meeting 2021,’ 28 July 2021.

50 Terrorgram, ‘Militant Accelerationism,’ June 2021.

51 James Mason, *Siege*, Iron March, 2017, 384.

Crucially, Mason's "all" does not just refer to established tools and tactics. Rather, it also encompasses new ideas and approaches, an attitude towards creative insurgency that is widely popularised today among REMVE actors online. This sees diverse adherents of the movement celebrating innovation as one of the principal ways – if not the principal way – to achieve the "highest goal" of destroying the global "system". After all, it enables mere "foot soldiers" to "survive at all costs" and become "less and less dependent on system supply chains, economy, and out-group social circles".<sup>52</sup>

These ideals are repeated in another foundational text for the REMVE ecosystem, *The Turner Diaries*, which frequently details its protagonists' ability to use innovation to circumvent and attack their opponents. This is something that many REMVE actors appear to have taken to heart, especially when it comes to discussing potential paths of attack. One recent publication, again shared by right-wing accelerationists across REMVE networks on Telegram, noted that while governments had repeatedly called for a ban on guns in the wake of violent extremist incidents they have not called for similar bans on drones, rental vans, nails, pipes, kitchen timers, electrical components, knives, crossbows, diesel, acetone, and more.<sup>53</sup> On that basis, the authors of this document encouraged REMVE actors to double down in their creative deployment of these potential but usually overlooked weapons systems.

REMVE discussions regarding the utility of innovation also frequently draw on the work of journalist Robert Taber, who embedded with Che Guevara and Fidel Castro in the late 1950s before writing *The War of the Flea: The Classic Study of Guerrilla Warfare* a decade later. The work of Taber, who was left-leaning politically speaking, has become critically important to contemporary right-wing and REMVE extremist thought (not to mention the fleeting appearances it has made in salafi-jihadist doctrinal circles). Taber's maxims of asymmetric warfare regularly appear as stylised posters on REMVE Telegram, such as:

*"Despite the impressive technological innovations of the twentieth century, the principles of warfare are not modern but ancient [...] the specifically modern aspect of guerrilla warfare is in its use as a tool of political revolution – the single sure method by which an unarmed population can overcome mechanized armies."*<sup>54</sup>

Ultimately, at the core of REMVE innovation efforts today is the belief that asymmetric strategies, derived from creative thinking and both low-tech and high-tech in nature, are the key to taking down the system and inciting out-group terror.

Fundamentally, this conceptualisation is not that dissimilar from the salafi-jihadist movement's understanding of innovation. However, the latter is characterised by a general acceptance of enemy-developed technologies and weapon systems on account of their material neutrality, while the REMVE attitude is more inward-looking, grounded in the paranoid belief that innovation is necessary in order to ensure distance (and security) from the 'system'.

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<sup>52</sup> *Siege*, 111 and 470.

<sup>53</sup> 'Militant Accelerationism,' 52.

<sup>54</sup> Robert Taber, *War of the Flea*, Potomac Books, New York, 2002, 107.

## Case Study I: Vehicle-ramming

Since 2017, vehicle-ramming attacks have been a go-to tool for REMVE threat actors, used discriminately to target 'liberal' protesters (chiefly at Black Lives Matter rallies, but not limited to those rallies alone) and indiscriminately to target civilians in incidents of terrorism. In this context, vehicle-ramming, according to the DHS, is when a perpetrator deliberately aims a motor vehicle at a target with the intent to inflict fatal injuries or cause significant property damage by striking with concussive force.<sup>55</sup>

Similar to the salafi-jihadist context, the deployment of vehicle-ramming attacks by REMVE actors has accelerated significantly in recent years due to their perceived asymmetric efficacy: vehicle attacks are low-tech, deadly, public and difficult to predict.

### *Targeting Protesters*

The most notorious incident in which a REMVE actor deployed vehicle-ramming was at a counter-protest to the Unite the Right rally in Charlottesville, Virginia, on 12 August 2017. The attack saw James Alex Fields drive his car into a group of people, wounding 29 and killing one. In June 2019, he pleaded guilty to 29 of 30 hate crime charges and was sentenced to life in prison.<sup>56</sup> Fields's attack was not a random incident. In the course of the trial, it emerged that he had targeted these protesters specifically because of their opposition to the Unite the Right rally.

Since then, online REMVE content has continuously encouraged vehicle-ramming attacks against protesters. In doing so, it has sought to dehumanise and objectify them as targets and delegitimise their causes, which broadly support 'liberal' values such as immigration and refugee policies, racial equality and indigenous rights.<sup>57</sup>

The Black Lives Matter movement is a particular focus of REMVE ire and accordingly much of this material revolves around it. Since 2017, REMVE media activists have crafted memes manipulating the Black Lives Matter slogan into "All Lives Splatter",<sup>58</sup> with depictions of cars driving into protesters. Some have shared videos of vehicle attacks overlaid with the song 'Move B\*\*\*h', injecting humour into the tactic while simultaneously dehumanising its targets.<sup>59</sup> In one instance,

55 Transportation Security Administration, "(U) Vehicle Ramming Attacks: Threat Landscape, Indicators, and Countermeasures," Office of Security Policy and Industry Engagement Surface Division – Highway and Motor Carrier Section, May 2017. <https://info.publicintelligence.net/TSA-VehicleRamming.pdf>

56 Elisha Fieldstadt, 'James Alex Fields, driver in deadly car attack at Charlottesville rally, sentenced to life in prison,' NBC News, 28 June 2019. <https://www.nbcnews.com/news/us-news/james-alex-fields-driver-deadly-carattack-charlottesville-rally-sentenced-n1024436>.

57 Erin Brodwin, 'People at the front lines of the battle over the Dakota Access Pipeline are calling it a "death sentence",' *Business Insider*, 1 November 2016. <https://www.businessinsider.com/north-dakota-access-pipelineprotest-drinking-water-2016-10>; 'Dakota Access Pipeline Protests Spread to 300 Cities as Pipeline Owner Sues to Continue Construction,' Democracy Now, 16 November 2016. [https://www.democracynow.org/2016/11/16/nodapl\\_protests\\_spread\\_to\\_300\\_cities](https://www.democracynow.org/2016/11/16/nodapl_protests_spread_to_300_cities); Reno Gazette-Journal, 'Man drives through crowd of Columbus Day protesters,' *USA Today*, 11 October 2016. <https://www.usatoday.com/story/news/nation-now/2016/10/11/columbus-day-protest-assault/91885460/>; 'Truck hits Native American crowd during Columbus Day protest in Nevada; no arrest yet,' CBS News, 11 October 2016. <https://www.cbsnews.com/news/truck-hits-nevada-crowd-during-columbus-day-protest-no-arrest-yet/>.

58 Counter Extremism Project, 'Vehicles as Weapons of Terror,' Counter Extremism Project, June 2021, 23. [https://www.counterextremism.com/sites/default/files/2021-06/Vehicles%20as%20Weapons%20of%20Terror\\_061621.pdf](https://www.counterextremism.com/sites/default/files/2021-06/Vehicles%20as%20Weapons%20of%20Terror_061621.pdf)

59 Neil MacFarquhar, 'Drivers Are Hitting Protesters as Memes of Car Attacks Spread,' *New York Times*, 7 July 2020, <https://www.nytimes.com/2020/07/07/us/bloomington-car-attack-protesters.html>.

a *Black Lives Splatter* videogame was created and distributed across REMVE communities, glorifying vehicle attacks and calling for more violence against protesters.

In 2020, following the murder of George Floyd and the subsequent intensification of Black Lives Matter protests around the USA, there was a sharp increase in vehicle-ramming operations.<sup>60</sup> In the three and a half months between 27 May 2020 and 9 September 2020, for example, some 104 incidences of vehicle-ramming were recorded at protests, with just under half of them being considered malicious in nature and potentially motivated by REMVE sentiments.<sup>61</sup>

### *Mass-casualty Terrorism*

Vehicle-ramming attacks have also been used in more conventional forms of terroristic violence, often as a direct corollary or even response to similar attacks by salafi-jihadis. In June 2017, Darren Osborne intentionally drove a rented panel van into a crowd of people outside the Finsbury Park Mosque in North London, killing one and injuring 20. Witnesses after the attack heard him exclaim, "I've done my job. You can kill me now."<sup>62</sup> The ensuing investigation revealed that Osborne was motivated by a desire to take revenge for the 2017 London Bridge attack perpetrated by IS supporters.

In April 2018, Canadian citizen Alek Minassian drove a rented van through one of Toronto's busiest streets, striking pedestrians and ultimately killing ten people, eight of whom were women, in what would become regarded as the deadliest incel terrorist attack. In its wake, it emerged that Minassian was emulating his hero and celebrated incel 'saint' Elliot Rodger, who carried out the 2014 Isla Vista killings.

More recently, in June 2021, another Canadian citizen, Nathaniel Veltman, drove his pickup truck into a Muslim family of five, killing four and wounding one in the town of London, Ontario. According to local police, there is evidence that the attack was planned and premeditated and that the perpetrator had targeted the family specifically because it was Muslim.<sup>63</sup> The case is currently ongoing, but terror charges have been brought against Veltman.<sup>64</sup>

As is the case in the context of salafi-jihadist terrorism, vehicle-ramming is strategically effective because it does not require much preparation, coordination, effort or resources. All it needs is a threat actor with access to a car and a basic level of driving skill.<sup>65</sup> Moreover, the everyday prevalence of vehicles

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60 Ari Weil, 'Protesters hit by cars recently highlight a dangerous far-right trend in America,' NBC News, 12 July 2020. <https://www.nbcnews.com/think/opinion/seattle-protester-hit-car-latest-casualty-dangerous-far-right-trend-ncna1233525>.

61 Grace Hauk, 'Cars have hit demonstrators 104 times since George Floyd protests began,' *USA Today*, 9 July 2020. <https://www.usatoday.com/story/news/nation/2020/07/08/vehicle-ramming-attacks-66-us-since-may-27/5397700002/>.

62 Vikram Dodd and Kevin Rawlinson, 'Finsbury Park attacker "wanted to kill as many Muslims as possible",' *The Guardian*, 22 January 2018. <https://www.theguardian.com/uk-news/2018/jan/22/darren-osborne-appears-in-court-over-finsbury-park-attack>; Fiona Hamilton, 'Darren Osborne guilty of terror attack by driving into Muslims at mosque,' *The Sunday Times*, 1 February 2018. <https://www.thetimes.co.uk/article/loner-darren-osborne-guilty-of-terror-attack-by-driving-into-muslims-at-finsbury-park-mosque-8bjwz732k/>.

63 Justin Zadorsky, 'Terror charges laid against Nathaniel Veltman, accused in London, Ont. vehicle attack,' CTV News, 14 June 2021. <https://london.ctvnews.ca/terror-charges-laid-against-nathaniel-veltman-accused-in-london-ont-vehicle-attack-1.5469106>.

64 *ibid.*

65 Alex Williams, Emily Corner and Helen Taylor, 'Vehicular Ramming Attacks: Assessing the Effectiveness of Situational Crime Prevention Using Crime Script Analysis,' *Terrorism & Political Violence*, September 2020, 3. <https://doi.org/10.1080/09546553.2020.1810025>.

decreases the likelihood of a would-be perpetrator standing out from the crowd. In addition to their efficacy, there is also the symbolic value of vehicle-ramming attacks; as Miller and Hayward note, “by transforming a bland, everyday object into a lethal, semi-strategic weapon, [vehicle attackers] empower marginal actors by providing them with the means to strike at the heart of urban centres and sow fear in the wider society.”<sup>66</sup> It is on this basis that REMVE threat actors appear increasingly drawn to committing vehicle-based violence.<sup>67</sup>

### *Trajectory*

To date, vehicle-ramming has been used by REMVE or REMVE-adjacent actors to deter protesters, take revenge for attacks perpetrated by salafi-jihadis and target specific ethnic and religious groups. They have even been used as part of attacks by incels. On that basis, it seems clear that it is not “ideology, exhortation, or a lack of violent alternatives that unite the perpetrators of vehicle ramming attacks”; rather, “it is the tactic itself.”<sup>68</sup> In their examination of incel vehicle attacks, Hoffman et al. explore this idea further. They found that there is an observable learning curve at play:

*“After Rodger’s attempted shooting rampage at the Alpha Phi sorority house, he proceeded to drive through the streets of Isla Vista, striking pedestrians between random gunshots. Not only did Minassian cite Rodger as his inspiration; he also followed his lead with his own car ramming attack along one of Toronto’s main thoroughfares.”<sup>69</sup>*

Importantly, Minassian, the Toronto attacker, explicitly hoped his act would inspire others who were “too cowardly to act on their anger”,<sup>70</sup> a direct recognition of a contagion dynamic not dissimilar to that which characterises how salafi-jihadis incite vehicle-ramming attacks. In line with the salad-bar conceptualisation of REMVE terrorism today, this dynamic sees “diverse actors animated by a variety of individual circumstances and group causes observe and incorporate vehicle ramming attacks as a mode of acting out.”<sup>71</sup>

This concept is powerfully represented in the martyrology of REMVE actors in online spaces, which sees past perpetrators lionised and held as inspiration for future attacks, their experiences learned from and studied with a view to improving upon them.

66 Vincent Miller and Keith J. Hayward, “‘I Did My Bit’: Terrorism, Tarde and the Vehicle Ramming Attack as an Imitative Event,” *The British Journal of Criminology* 59:1, January 2019, 4. <https://doi.org/10.1093/bjc/azy017>.

67 Bart Schuurmann, Edwin Bakker, Paul Gill, Noemie Bouhana, ‘Lone Actor Terrorist Attack Planning and Preparation: A Data-Driven Analysis,’ *Journal of Forensic Sciences* 63:4, 2018, 1,191–200.

68 Brian Michael Jenkins and Bruce R. Butterworth, “Smashing Into Crowds” – An Analysis of Vehicle Ramming Attacks,’ Mineta Transport Institute Publications, November 2019, 14.

69 Bruce Hoffman, Jacob Ware & Ezra Shapiro, ‘Assessing the Threat of Incel Violence,’ *Studies in Conflict & Terrorism* 43:7, 2020, 570.

70 Leyland Cecco, ‘Toronto van attack suspect says he was “radicalized” online by “incels”,’ *The Guardian*, 27 September 2019. <https://www.theguardian.com/world/2019/sep/27/alek-minassian-toronto-van-attack-interview-incels>.

71 Jenkins and Butterworth, ‘Smashing Into Crowds,’ 15.

## **Case Study II: Drones**

Whereas, at the time of writing, salafi-jihadist militants have been demonstrating their ability to deploy UAVs for years, REMVE actors have begun only recently to experiment with them. Nonetheless, drones are a critical potential vector for REMVE innovation, a still-emerging trend that is likely to accelerate as commercial drone and 3D-printing technologies evolve and cheapen in years to come. Similar to their application in salafi-jihadist contexts, drones have so far been experimented with in order to produce propaganda and plan attacks.

### *Propaganda*

Drone technology is most prominent in the context of REMVE propaganda production. This usually sees camera-mounted UAVs being used to record mass gatherings and rallies for future propaganda use, often in order to craft a narrative of consensus counter to mainstream media. Sometimes, this footage, like its salafi-jihadist equivalent, is geared towards branding the movement or organisation in question.

For example, drone-shot footage was used to cover transnational protests against the ‘system’ across 2020 and 2021, distributed across REMVE communities with a view to discrediting ‘official reporting’ about the demonstrations.<sup>72</sup> In a similar vein, drones were also been used to create propaganda by the likes of the Atomwaffen Division. One of its 2019 videos, ‘Fission’, which was “released on the 81st anniversary of Kristallnacht” and shows “men with AWD patches and flags burning a Hebrew bible, a Quran, a book on critical theory, and an LGBT pride flag”, was partly shot on a drone-mounted camera.<sup>73</sup>

At other times, UAV footage is deployed in a more tactical, reactive manner. For example, in 2017, drone footage from a Unite the Right rally was shared to counter the narrative present in mainstream media accounts that Fields’s act was deliberate and premeditated. According to this line of reasoning, which was supported by selective footage, “there was almost no chance convicted driver James Fields knew that he was turning onto a street with extreme left-wing protesters as a gathering left-wing crowd waited while protesting through the whole city.”<sup>74</sup>

### *Reconnaissance and Aerial Attacks*

To date, there have been no confirmed instances of UAVs being used directly in an act of REMVE terrorism. However, as noted by Haugstvedt in his exploration of the use or potential use of drone technology by REMVE-motivated actors, off-the-shelf drones are an increasingly low-tech solution that:

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72 Shared in various Telegram Channels and Chats on 24 April 2021.

73 Counter Extremism Project, ‘New Video Released From Alleged Atomwaffen Division Affiliate,’ 18 November 2019. <https://www.counterextremism.com/press/extremist-content-online-isis-issues-threats-spain-iraq>.

74 Shared in various Telegram Channels and Chats in May 2021.

*"[Fits] the pattern of right-wing violence in its present and historical forms by being a tool that a lone actor can use without advanced training or preparation, as opposed to the more sophisticated UAV. This is also in line with the history of terrorism in general, where easy-to-produce, cheap and portable weapons have been found to be the most attractive."*<sup>75</sup>

Notwithstanding the lack of usage to date, REMVE communities online have shared several blueprints for 3D-printed drone components that, combined with remote-control car or plan technology acquired at hobby shops, are meant to enable the home production of weaponised UAVs. The narrator of a video shared on an innovation-focused white supremacist Telegram channel in April 2021 states:

*"Today, we would like to introduce you to the next dimension of 3D-printed freedom – drones. The Weaponized Terrifying Freedom 9000 (aka WTF-9000) is a completely autonomous, nimble and easy to manufacture weapons system. With parts such as motors and microcontrollers being easily available in the RC section of your local toystore, the WTF-9000 is here to make weaponized drones available to the masses. Payloads for the WTF-9000 are limited only by the builder's imagination and choice of parts. This video features a WTF-9000 prototype in field testing at an undisclosed location. We are incredibly excited about this innovative and liberating piece of technology, and will bring more updates on April 1st, 2022. Thank you."*<sup>76</sup>

The grainy 28-second video clip over which these words were narrated shows an apparently homemade drone with a remote-controlled pistol attached to it. Though the setup looks gimmicky, it nevertheless flags the possibility of such innovations being deployed in future.

In any case, while weaponised UAVs have yet to be deployed, the same cannot be said for reconnaissance UAVs. For example, Brenton Tarrant used a drone when planning his 2020 mosque attacks. Graham Macklin, in his analysis of the Christchurch shootings, writes:

*"[P]olice also unearthed several files relating to his planning and preparation (including memos, budgets, and a 'to-do' list) from the SD card of a drone Tarrant had used to conduct hostile reconnaissance on the Masjid an-Nur on January 8, 2019. He subsequently sent the drone still containing the SD card and an external hard drive to his sister, believing he had erased the data from both devices."*<sup>77</sup>

It is worth also noting that in his manifesto Tarrant also "advocates assassinations of high-profile people using explosive drone attacks."<sup>78</sup>

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75 Håvard Haugstvedt, 'The Right's Time to Fly? Exploring the Possibility of Right-Wing Extremists' Use of UAVs,' *The RUSI Journal* 166:1, 2021, 30.

76 Post from a Telegram chat about the 3D printing of weapons, which was widely shared in violent extremist ecosystems in April 2021.

77 Graham Macklin, 'The Christchurch Attacks: Livestream Terror in the Viral Video Age,' *CTC Sentinel* 12:6, July 2019.

78 Troy Whitford, 'Practices and Possibilities: A review of instructional intelligence and counterintelligence literature informing right-wing extremist groups,' *Australian Institute of Professional Intelligence Officers Journal* 28:1, September 2020, 10.

### *Trajectory*

While drones are certain to continue to play a role in REMVE content production, based on REMVE threat actors' tendency to emulate past 'heroes' or 'saints', there is a reasonably high likelihood that future attackers will incorporate UAV-based reconnaissance into operation planning in the same way that Tarrant, the Christchurch attacker, did. Tarrant is one of the most influential 'martyrs' in REMVE circles online and his methodologies, tactics and manifesto are the subject of frequent discussion.

This, in addition to the fact that drone technology is becoming cheaper and more accessible, a dynamic that is complemented by the proliferation and increasing sophistication of 3D-printing capabilities, is an important motivating factor for REMVE UAV uptake.



## 4 Analysis

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This paper has examined how salafi-jihadis and REMVE threat actors conceptualise and promote innovation in the context of strategic doctrine, tactics and technology. In doing so, we have demonstrated that innovation is idealised across the ideological aisle (without necessarily being reciprocal), with both sets of threat actors generally adopting a permissive attitude regarding new approaches to asymmetric warfare. This is because, simply put, innovation is effective: in the context of terrorism, it is a way for threat actors to stay ahead of law enforcement. The same is true when it comes to insurgency, wherein, by adopting new methods and munitions, threat actors can skirt around enemy defences and/or better defend themselves against offensive campaigns.

For this reason, adherents of both salafi-jihadist and REMVE ideologies fetishise on- and off-battlefield creativity, continually celebrating it in their propaganda with a view to fostering and ultimately entrenching a culture of adaptation and evolution. This attitude is born of both top-down and bottom-up factors. The former are driven by highly explicit injunctions to innovate, be that tactically or technologically, in some of the core doctrinal texts of these movements, whether that is theological treatises, such as Abu 'Abdullah al-Muhajir's *Blood Jurisprudence*, or novels, including William Pierce's *The Turner Diaries*. These materials imbue the very notion of creativity with pseudo-religious and in some cases quasi-divine attributes. Innovation is framed as an essential way for 'good' – whether that is 'Islam' or the 'white race' – to triumph over 'evil' – whether that is '*kuffar*' or the 'system'.

As demonstrated by each of the case studies considered above, tactical and technological innovations sit neatly within this strategic doctrinal framework. Both vehicle-ramming and the use of UAVs, due to their perceived asymmetric advantages on and off the battlefield, have become motif-like within salafi-jihadist and REMVE communities, celebrated as a symbolic as well as operational means with which to seize the military or asymmetric initiative. To varying degrees, this perception of efficacy translates into implementation, with adherents of each ideological ecosystem engaging with these tactics and/or technologies in order to emulate what is seen to have worked before.

Where salafi-jihadist and REMVE innovation dynamics differ most is in relation to their attitudes towards technology. Salafi-jihadist convention states that technology, whoever develops it, is generally characterised by material neutrality. That is to say, a weapon made by the enemies of Islam is the same as any other weapon; its provenance does not problematise its usage. This means that salafi-jihadist innovation, which is instrumental, largely driven by a lack of access to conventional military supply chains, is relatively uninhibited.

For REMVE threat actors, however, the need to innovate is born more of doctrinal concerns. There is a widely held feeling of suspicion towards technologies produced by corporations or the 'system' among REMVE threat actors, something accounted for by their conspiratorial

paranoia. For that reason, there tends to be a greater proclivity towards autonomous, grassroots innovation within this ecosystem, including, but not limited to, things like 3D printing. Even though at a push most REMVE threat actors will purchase what they need rather than go through the effort of innovating, the idea that it is possible to circumvent 'system' supply chains is an appealing one and something that is continually celebrated and idealised.

Salafi-jihadist and REMVE innovation dynamics also differ from a process perspective, with top-down forces playing a bigger role for the former and bottom-up forces for the latter. This is symptomatic of the way in which each ideological current is structured. The global salafi-jihadist movement is generally characterised by hierarchically organised authoritarian group structures. On account of this, innovations generally need organisational buy-in if they are to become tactical or technological conventions. REMVE ideologies, however, are far more diffuse and focused on individual action: individuals may collectively support groups or specific ideological subsets, but they are not formally bound together or directed in the same way as members of the likes of IS or al-Qaeda. This means that, from a cultural perspective, REMVE actors are generally more inclined to bottom-up innovation.

## 5 Conclusion

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Innovation by non-state actors is necessary because of the kinetic nature of conflict with the state. Just as the state innovates, particularly in terms of developing sophisticated and often highly intrusive surveillance methods to thwart terrorist activity, so malevolent actors must also innovate. Put another way, neither side can afford to stand still in what is a dynamic and constantly evolving threat-landscape. Through the case studies used in this paper, it has been shown that salafi-jihadist actors are innovating more dynamically and potently than their REMVE counterparts. This is mostly due to salafi-jihadist innovation originating from ungoverned spaces that are permissive environments for terrorist training, innovation and attack-planning. As our case studies show, instances of first deployment of these tactics also occur either in active combat zones or in fragile states highly susceptible to terrorist attack.

From a doctrinal perspective, salafi-jihadist theology places a premium on innovation by regarding it as something commanded by God to drive the movement forward. In this sense, salafi-jihadis vigorously embrace different technologies and material output, eschewing only material products that depict a particular religious or ideological viewpoint on life that would be antithetical to normative Islamic views. By contrast, REMVE actors regard innovation as essential to the lifeblood of their movement. It is a necessary prerequisite to give them asymmetrical advantage over the state. Innovation allows them to set themselves against the 'system' by both outsmarting it and also sidestepping it. Thus, while innovation is of doctrinal significance for salafi-jihadis, for REMVE actors it is a strategic imperative linked to their survival.

When considering the use of vehicles in attacks, the jihadist movement has a distinctly longer tradition of innovating in this space stretching back to the 1980s. Nonetheless, it has not been widely adopted as a tactic; although it gained some momentum within the context of the Israeli-Palestinian conflict, it did not find an audience in the broader jihadist world.

Even attempts by al-Qaeda in the Arabian Peninsula to popularise the idea went largely unheeded. What is clear is that this tactic became much more popular after the Nice terrorist attack in 2016 on Bastille Day when 86 people were killed and a further 458 others injured. That attack established a proof of concept demonstrating just how deadly this relatively unsophisticated and crude tactic could be. It inspired a flurry of attacks across Europe. Yet its malign influence was not limited to jihadists. Vehicle attacks by REMVE actors also became popularised in 2017 with attacks in the UK and USA. Thereafter, a significant number of attacks took place in the USA, often targeting protesters associated with the Black Lives Matter movement. Indeed, the gamification of attacks has seen games such as *Black Lives Splatter* being used to glorify the idea of attacking protesters with vehicles.

With regards to drones, the jihadist movement is similarly more sophisticated and advanced in its malevolent innovation of this technology than REMVE counterparts. Both groups use drones for propaganda, although groups like IS have been unparalleled in their ability to produce high-quality, filmic output designed to inspire others to support their causes. When REMVE groups have used drone footage to support their movement, it has often been to film protests or demonstrations to then refute mainstream reporting of events by disputing the number of people in attendance. Their argument is the mainstream press downplays their numbers, and thus strength, support and relevance, because it is part of the 'system'.

Both groups have also used drones to conduct hostile reconnaissance, with IS using it on the battlefield in Syria and Iraq, while REMVE actors have used it when preparing terrorist attacks, such as the Christchurch Mosque atrocity. The most notable difference here is that REMVE actors have not adapted drones for payload delivery in Western settings, in the way salafi-jihadis have in such places as Syria and Iraq. This is plausibly because the type of payloads that can be delivered by such devices are crude, typically requiring access to grenades, which are not readily available in the West – even in the USA where access to firearms is considerably freer than it is in Europe.

Future research conducted by ICSR will consider other aspects of malevolent creativity and innovation, with regards to recruitment, terrorist financing (including cryptocurrencies), decentralised web platforms and 3D-printing systems. As this paper has shown, the ready availability of ever more powerful technology creates enhanced opportunities for terrorist adversaries keen to demonstrate their ability to circumvent the state.









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