DRONE SEC

NOTIFY ISSUE #71 (PUBLIC)

WEEKLY THREAT INTELLIGENCE

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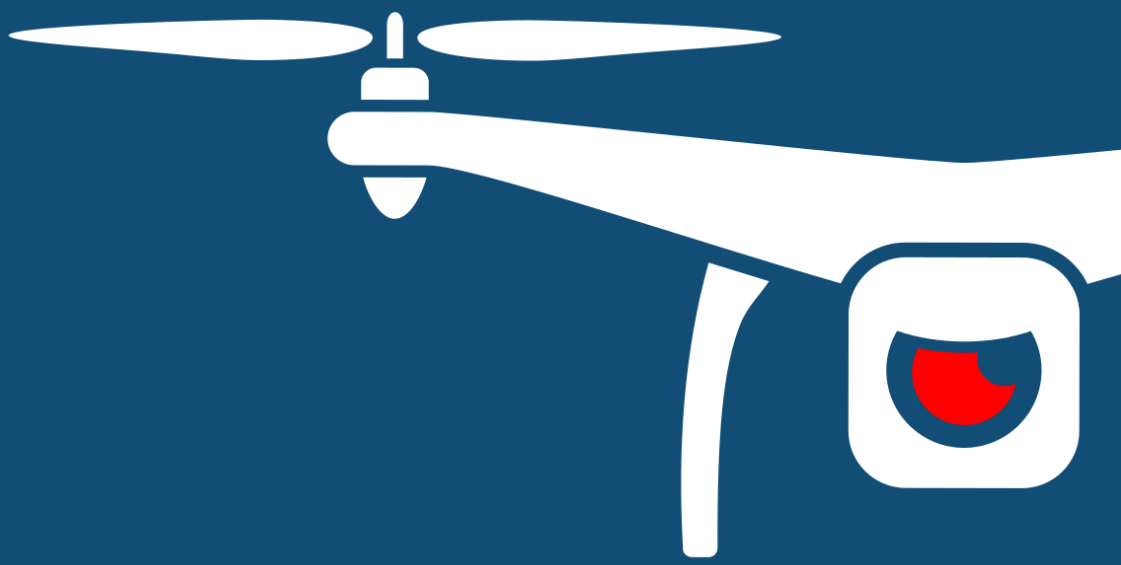

UAS HACKING, HARDENING AND DEFENCE

UAS PENETRATION TESTING
COUNTER-UAS CONSULTING
FORENSICS & INCIDENT RESPONSE
AERIAL THREAT SIMULATIONS
DRONE SECURITY MANAGEMENT PROGRAMS

DOCUMENT **CONTROL**

PREPARATION

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EXECUTIVE **SUMMARY**

The GDSN #3 is next week, going live on the 27th and 28th of April 2021!

The GDSN is a non-sponsored event which brings the best-of-breed Cyber-UAV security, UAS Threat Intelligence, Counter-UAS and UTM security minds into one place. It will be fully remote, accessed online and suitable to multiple time zones.

For attendees register your virtual spot now: https://www.eventbrite.com.au/e/global-drone-security-network-3-tickets-148883593837

As always, if you have comments or feedback, want to join in the discussion in our slack discussion group, or find the system that captures this information please don't hesitate to contact us.

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1. THREAT INTELLIGENCE

1.1. FEATURED ADVISORIES

The prioritisation table and its dependencies are explained in Appendix A, and relate to how we filter, analyse and visualise the intelligence we collect.

Intrusion and Trespass	Priority
Mexican drug cartel CJNG drop frag grenades from drones onto police, wounding two	**P2**

Summary

CJNG attacked law enforcement with drones loaded with fragmentation grenades, leaving two policemen injured in Aguililla.

Overview

Local media stated that two drones were used during the attack and it is believed that they were rigged in a similar way to the two drones that were found in the car of suspected CJNG members a few months prior. These drones are thought to be the latest weapons in a deadly war between the drugs cartel and the security forces and vigilantes opposed to them. The officers injured on Tuesday had been deployed to clear roads leading to the city of Aguililla, which had been blocked by the cartel to impede the access of the security forces.

Analysis

Using payload-capable drones is a cost-effective and risk-reduced technique without being spotted and allows operators to distance themselves from the immediate blast radius. Drones allow malicious users to operate safely with a low risk of being apprehended by law enforcement agencies due to being disconnected from the threat. Operating the drone itself has a low skill barrier, however, in this situation, there is some operator experience and domain knowledge required. For example, the syndicate had to build a printed circuit board assembly to work in tandem with the drone on releasing the C4 explosives.

There has been a rise in incidents in which drug cartels use explosive payloads by drones instead of just reconnaissance or contraband drops. They have shown the ability to recreate the effect of a fragmentation grenade using other materials such as ball bearings and plastic containers which increases the destructive power of the explosive payload. Organised crime groups and individuals are realising that drones are an innovative technology that allow them to carry out their criminal activities more effectively, whether it be to deliver contraband across restricted areas or as weapons.

References

https://www.elimparcial.com/mexico/CJNG-video-drones-cartel-jalisco-nueva-generacion-vaticano-coppola-aguililla-narco-blog-ataques-explosivos-granadas-20210420-0076.html

https://www.bbc.com/news/world-latin-america-56814501

Figure 1 - Can't see this report? Featured analysis is only available to PRIVATE subscribers

Safety	Priority
Drone smashes into car windscreen, Tamworth, United Kingdom	#2

Summary

A drone smashed into a car windscreen after it lost control, collided with a tree and soared downwards into the car.

Overview

The incident happened in Wensleydale, Stonydelph in Tamworth where a drone flew straight into a parked car. The drone operator was flying his drone in a field when it lost control, hit a tree then soared downwards into the estate, smashing into the car's windscreen. Although the police were called in, the vehicle owner and drone owner have come to an amicable agreement in regard to payment for repairs.

Analysis

Drone regulations in the UK include keeping the drone in direct sight as well as not flying closer than 50m to buildings, cars, trains or boats. If the drone is outfitted with an on-board camera, further regulations include not flying within 50m of people and/or property that are not under the direct control of the drone user.

In this case, the drone operator was operating at a field, the nearest of which is near Malham Road, about 600m away from where the incident occurred. In this incident, although the drone operator could be flying his drone within his property, when the drone loses continuous communication signal with its operator and maintains the last commanded input, the drone would become a safety hazard as it continues to fly in that commanded direction. In this scenario, the operator must immediately try to re-establish link with the drone if possible.

Recommendation

Nowadays, capabilities of drones have progressed to being able to fly further and higher, some even allowing operators to fly the drone beyond visual line of sight (BVLOS). However, operators should remain cognisant of regulations preventing them from doing so and to fly responsibly, especially in areas with a high population density. The consequences of their actions as a near miss or a direct hit could result in potential fatalities. Flight restriction over populace is set in place to prevent any possible drone-human collision if the drone were to malfunction and fall from the sky. Studies have shown that a direct impact from a drone could lead to lacerations, and possibly concussion or ocular injuries with the rotor blades.

Drone operators are responsible for flying their drones within the limitations imposed by their aviation authorities. It is also their responsibility to be sufficient trained, certified and updated with the latest regulations, procedures and NOTAMs as soon as they become available. Rules and notices on drone operations in certain locality can be found online in the local government aviation websites.

References

https://www.birminghammail.co.uk/news/midlands-news/drone-smashes-car-windscreen-tamworth-20404232

1.2. NON-CONFLICT NEWS AND EVENTS (P3)

Thermal-vision drone amongst equipment confiscated from major drug cartel, Gibraltar

https://hoyjerez.com/art/3752/desarticulada-una-de-las-mayores-redes-de-trafico-de-hachis-en-el-campo-de-gibraltar-con-21-detenidos

Narco-drones on the rise between Ceuta and Morocco due to the closure of El Tarajal

https://elfarodeceuta.es/ingenio-narco-burlar-tarajal/

Active shooter distracted by police drone, Oklahoma

https://dronedj.com/2021/04/16/police-drone-distracts-shooter/

1.3. CONFLICT NEWS AND EVENTS (P3)

Saudi-led coalition intercepted 5 Houthi missiles and 4 drones targeting Jazan

https://english.alarabiya.net/News/gulf/2021/04/15/Arab-Coalition-intercepts-Houthi-drone-targeting-Saudi-Arabia-s-Jazan

Saudi university catches fire from debris of intercepted drones

https://www.timesofisrael.com/saudi-university-catches-fire-after-missile-drone-attack-intercepted/

Russian forces use dozens of Lancet drones against militants in Syria

https://ria.ru/20210417/udar-1728753228.html

1.4. SOCIALS (P3)

Drones in America - Discussing new drone regulations (Podcast)

https://marketscale.com/industries/software-and-technology/what-regulations-will-get-drones-ready-to-deliver-to-your-front-door/

Drone Wars – UAE's new arsenal of suicide kamikaze drones (Commentary)

https://www.youtube.com/watch?v=4sYJihw4N1A

1.5. WHITEPAPERS, PUBLICATIONS & REGULATIONS (P3)

Unmanned Systems Defence Conference discusses how drones can support the military

https://www.auvsi.org/industry-news/blog/unmanned-systems-defense-phase-i-air

Drone Swarms Could Be Too Fast to Handle. Is AI the Answer? (Commentary)

https://nationalinterest.org/blog/reboot/drone-swarms-could-be-too-fast-handle-ai-answer-182659

Why Turkish drones will not be affected by Canada's sanctions (Commentary)

https://www.trtworld.com/magazine/why-turkish-drones-will-not-be-affected-by-canada-s-sanctions-45933

Combat and swarm drones: Future force multipliers (Commentary)

https://bharatshakti.in/combat-and-swarm-drones-future-force-multipliers/

Why the industry still relies on DJI despite geopolitical tensions and security concerns (Commentary)

https://droneanalyst.com/2021/04/19/why-the-industry-still-relies-on-dji

Expect greater regulation of embedded code as drone adoption soars (Commentary)

https://www.aerospacemanufacturinganddesign.com/article/grammatech-drone-adoption-soars-regulation-embedded-code/

The US should be wary of Chinese-made drones (Commentary)

https://www.dailysignal.com/2021/04/15/chinese-made-drones-in-the-us-are-spying-on-us-congress-must-put-an-end-to-this/

Managing risk from drones in construction sites (Commentary)

https://www.ukconstructionmedia.co.uk/features/managing-drones-construction-projects/

US forces struggling to maintain air superiority due to small armed drones (Commentary)

https://www.airforcemag.com/u-s-forces-operating-without-complete-air-superiority-due-to-small-armed-drones/

Preparing aerodromes to manage disruption from drone incidents (Commentary)

https://www.internationalairportreview.com/article/156595/preparing-arrival-drones-airport-environment/

1.6. COUNTER-DRONE SYSTEMS (P4)

Industry teams demonstrate counter drone capabilities at Yuma Proving Ground

https://www.defensenews.com/land/2021/04/16/three-industry-teams-demonstrate-capability-to-take-out-small-drone-threats-at-yuma/

D-Fend offers its new Multi-Sensor Command & Control system

http://theuavdigest.com/news/?rkey=20210413LN39354&filter=8631

Defsys Solutions deliver hard kill counter drone systems to Indian Forces

https://www.businesswireindia.com/defsys-solutions-delivered-counter-drone-systems-to-indian-forces-col-s-gupta-72463.html

Fortem Technologies to deliver counter drone system, SkyDome, to police forces worldwide

https://www.streetinsider.com/Globe+Newswire/Fortem+Technologies+Delivers+Counter+Drone+Security+Solutions+to+Police+Forces+Worldwide/18260251.html

South Korea to spend 42 billion won in illegal drone response tech by 2025

https://www.koreatimes.co.kr/www/tech/2021/04/133_307338.html?gonw

Russian Army displays electronic warfare system against drone strikes during training exercise

https://tvzvezda.ru/news/2021412652-kJj42.html

1.7. INFORMATIONAL (P5)

Elderly woman rescued after drone search by law enforcement, Bee County

https://www.kiiitv.com/article/tech/drone-helps-find-woman-in-bee-county/503-c72d1d6f-b3d9-4056-842e-02c2bccccdfb

Australia gifts Sri Lankan police 5 drones for monitoring of smuggling activities

https://australianaviation.com.au/2021/04/australia-gifts-sri-lanka-drones-to-spot-people-smuggling/

Royal Malaysian Police will strengthen control at the country's border with drone use

https://www.malaymail.com/news/malaysia/2021/04/20/police-to-strengthen-malaysia-thailand-border-control-with-cctv-drone-use/1967860

Iran shows off drone arsenal during military parade

https://www.jpost.com/middle-east/iran-news/iran-shows-off-dozens-of-drones-in-military-parade-665482

EMSA begins enhanced maritime surveillance operations for Baltic Sea

http://www.emsa.europa.eu/newsroom/press-releases/item/3965-towards-a-regional-service-in-the-baltic-sea-emsa-s-rpas-to-support-finnish-estonian-and-swedish-coast-guard-functions.html

Hilliard police testing drone to help with emergency response

https://www.10tv.com/article/news/local/hilliard-police-testing-drone-that-could-help-emergency-response/530-597c0fba-93bd-4a9a-b5e1-9501b687a47b

1.8. UTM SYSTEMS (P5)

Blue Bear launches AR system for swarming drones and BVLOS operations

https://www.suasnews.com/2021/04/blue-bear-launches-heads-up-augmented-reality-technology-for-drones/

How a drone swarm is made (Commentary)

https://www.droneblog.com/2021/04/19/the-making-of-a-drone-swarm-everything-you-need-to-know/

Intermap and DronSystems announce proof of concept test for UTM platform, DroNAV, in Dubai

https://uasweekly.com/2021/04/15/intermap-and-dronsystems-announce-uas-collaboration/

uAvionix signs agreement to support UTM trials in Canada

https://www.unmannedsystemstechnology.com/2021/04/uavionix-supports-utm-trials-in-canada/

UK CAA authorises first trial of BVLOS drone flights

https://placetech.net/news/starting-gun-fired-for-uk-delivery-drones/

Drone Enable Symposium 2021: Lessons learnt about the development of UTM and UAM

https://www.unmannedairspace.info/emerging-regulations/drone-enable-symposium-continued-development-of-utm-and-uam-depends-heavily-upon-societal-acceptance-lessons-learned/

1.9. DRONE TECHNOLOGY (P5)

Drones form a QR code in the sky for viewers to download video game, Shanghai

https://www.explica.co/in-china-drones-form-gigantic-qr-codes-for-viewers-to-download-a-video-game.html

AT&T 5G Innovation Studio to test drone delivery in Texas

https://www.thedronegirl.com/2021/04/14/5g-innovation-studio-att-texas/

Canada performs first drone flight over 5G network

https://news.ubc.ca/2021/04/15/canadas-first-5g-drones-fly-over-ubc/

Softbank to deploy drones to keep mobile network up during natural disasters

https://asia.nikkei.com/Business/Telecommunication/SoftBank-s-drones-keep-mobile-network-alive-in-disaster-hit-Japan

Singapore launches Maritime Drone Estate, using drones to deliver shipping parts to vessels

https://www.straitstimes.com/singapore/drones-to-deliver-medicine-and-shipping-parts-to-vessels-from-marina-south

Prototype UAS, Scorpion XL, able to transport payloads weighing up to 1000 pounds

https://www.suasnews.com/2021/04/full-throttle-aerial-uas-scorpion-xl/

SESAR PercEvite research develops collision avoidance package under 50 grams

https://www.unmannedairspace.info/latest-news-and-information/sesar-percevite-research-develops-innovative-collision-avoidance-technology/

Drone powered by hydrogen fuel cell and solar panels flies for 24 hours

https://www.flightglobal.com/military-uavs/tactical-drone-powered-by-solar-panels-and-hydrogen-fuel-cell-flies-24h/143358.article

For Appendix items please click this link.