AI-Enabled Platforms for Protection against Advanced Threats

DroneShield (ASX:DRO)

January 2023

Image: DroneGun counterdrone system

Record 2022, with Strong Outlook for 2023

- **All-time record revenue and cash receipts achieved in 2022, with a strong outlook for 2023***
  - Revenue increases approximately 60% over previous record year, to $16.9 million
  - Cash receipts at a record $15.6 million
- **Two all-time record $11 million orders received in December and January, from two different Government customers**
  - These sales will be fulfilled from existing stock and working capital, via favourable payment terms
- **Recommendation by the US DoD for rollout across its bases nationwide, expected to commence this year**
- SBIR project awarded by US DoD with partner Quantum Research International
- **The first U.S. airport deployment, deployments at Davos and IRONMAN Texas**
- **Numerous $1 million+ deployments with the U.S., European and other Government customers**
- Appointment to the Australian DoD Intelligence, Surveillance, Reconnaissance and Electronic Warfare Standing Offer Panel
- **$3.7 million investment from Epirus Inc, a U.S. defense technology unicorn developing software-defined directed energy systems**
- New partnerships with Teledyne FLIR, Nearmap, Allen Vanguard and XRG, while strengthening and making additional sales through existing partnerships with BT, Trakka and Thales
- Launch of a dedicated testing facility in Australia
- Favourable macro environment for DroneShield with rapidly rising counterdrone, defence and security spending globally

** There is no assurance that any of the Company's sales opportunities will result in sales.*

DRONESHIELD

Business Overview

Image: RfPatrol™ during customer evaluation

Why is the Malicious Use of Drones a Threat?

The widespread adoption of drone technology has increased the risk and prevalence of disruptive use

Payload delivery

- **Attacks:** Dropping harmful / explosive payloads (including chemical or biological substances) or creating damage via collision
- **Smuggling:** Moving contraband into sensitive zones such as prisons

Intelligence gathering

- **Directing attack:** Reporting enemy target location on the battlefield to direct forces
- **Spying and tracking:** Obtaining video, images and track movements of personnel
- **Surveillance:** Using drone images and other payload data to enable reconnaissance

Nuisance activity

- **Infrastructure disruption:** Using drones to jeopardise the safe operation of major facilities such as airports

Cyber and Ransom attacks

- **Corporates, Ships, Facilities:** Hack into control networks via proximity intrusion with a drone, and demand ransom or cause terrorist attack

AI-Enabled Platforms for Protection against Advanced Threats

Multiple platforms in adjacent technologies and customers with a common theme of AI-based threat protection

Counterdrone

- Global leader with multiple differentiators in a rapidly growing counterdrone market
- Hardware sales with SaaS
- Tier 1 customers across military, intelligence community, Government and critical infrastructure
- $200m+ pipeline

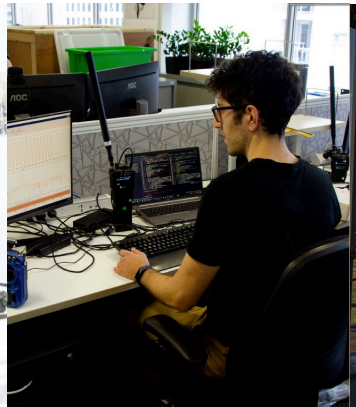
Synergies between counterdrone and non-drone applications

Artificial Intelligence in Electronic Warfare

- Executing on a 2 year $3.8m contract with Australian DoD, following on the initial $600k contract in 2020
- Follow-up contract expected in 2023
- Potential to take the work to the US DoD
- Land, Sea/sonar, Air, Space and Joint Forces applications
  - DroneShield's AI software is well positioned to solve Defence "big data" challenges

Artificial Intelligence in computer vision and sensor fusion

- Completed 1-year initial $800k contract with Australian DoD in late 2022
- Expecting follow up work

How does a counterdrone system work?

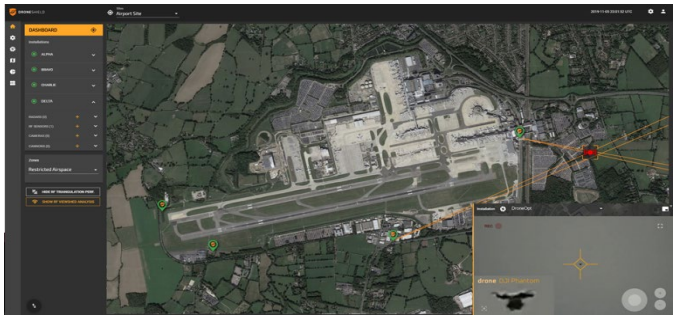
Step 1

Detect

- State of the art, multi-sensor drone **detection** products provide optimal detection and identification of drones and other UAS threats

Step 2

Assess



- Machine learning and AI based detection and classification software is used to undertake near-real time tracking and **assessment** of drones and UAS threats

Step 3

Respond

- **Respond** / defeat technologies offer intelligent, responsive, non-kinetic jamming for the controlled management of threats

Investment Highlights

1. World leading proprietary AI platform for protection against drones

2. Leverage to the global defence and security technology sector. $10bn counterdrone addressable market, in addition to electronic warfare and Defence AI markets

3. Sales pipeline of over $200m with over 90 standalone qualified projects at different stages

4. Best in class customer base including Australian Department of Defence, US DoD, US State Department and others

5. $16.9m in 2022 revenue*, another record year, as the business is at inflection point

6. Repeat customers constitute majority of sales

*Preliminary unaudited figure

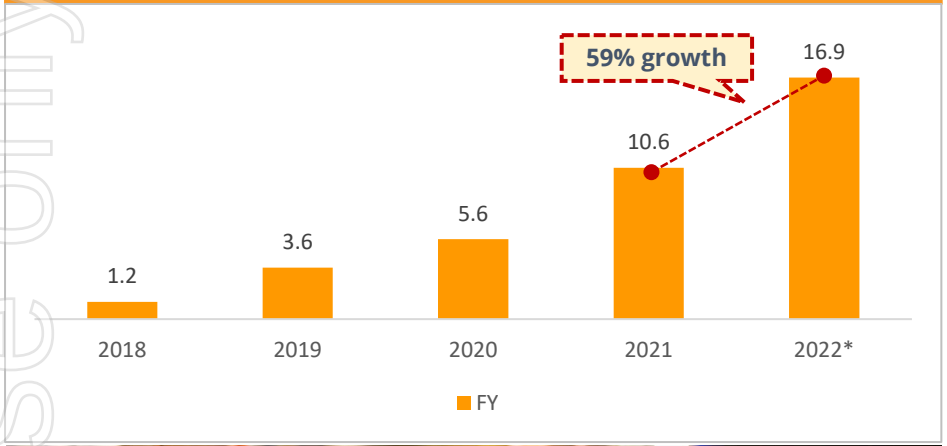
Executive Summary

DroneShield Overview	• Founded in 2014 and listed on the ASX in 2016, DroneShield (ASX:DRO) provides **Artificial Intelligence platforms** for **protection against drones** • **Hardware and software solutions** that detect and safely neutralise small drones used for high-tech warfare, terrorism, contraband delivery, and airport disruptions • **Key customers** include military, intelligence community, Homeland Security, law enforcement, critical infrastructure, and airports globally
Financial Highlights	• Record **$16.9 million revenue** for 2022, with expected strong 2023 • **$19 million contracted backlog of orders** as of 31 January 2023, expected to be fulfilled and paid in 2023 • Strong cash position with **$10.3 million cash** in bank (as at 31 December 2022). $14.1 million bank balance as of 31 January 2023
Business Model	• **Three streams of revenue**: hardware (drone detection and defeat devices), SaaS (device software updates) and R&D contracts • Sales through an **experienced in-house veteran salesforce with distribution partners across over 100 countries** • Regular software updates for hardware products and DroneSentry-C2™ (Command-and-Control software) as a standalone subscription product is expected to lead to a **significant proportion of SaaS revenue** over the next 5 years • **R&D contracts are expected to increase**, representing an opportunity to develop advanced capability in-house, and attracting and upskilling talent
Proprietary AI Technology	• Underpinning all hardware products are the Company's **proprietary AI-enabled threat awareness software engines RFAI™ and** DroneOptID™, and the sensorfusion engine • The software engines utilise proprietary techniques to undertake **real-time, at the edge, detection and identification of drones** and other potential threats in the ISR and Electronic Warfare fields • The result is a dramatic **increase in detection responsiveness**, **lower false positives** and a **significant increase in the speed** at which new threats are detected, classified and tracked by DRO systems • Customers receive **regular software updates** via enrolling in a SaaS model at the time of purchase of their systems. • All hardware except for radars and cameras fully designed and developed in-house, with no reliance on third party IP • Delivering on a **$3.8 million contract to provide Electronic Warfare ("EW")** capabilities to detect "never seen before threats" to the **Australian DoD**
Addressable Market	• **Large international addressable markets** in counterdrone and related EW and tracking systems estimated at approximately **US$10 billion** worldwide • Rapidly improving and easily available drone technology is **driving demand for counterdrone solutions** • **Current geopolitical conflicts make extensive use of drones by all sides**
Growth Strategy	• Today, over **75% of revenues is derived from defence**, and approximately **15% of revenue** comes from the **intelligence community** • Defence, the intelligence community and border security will continue to be the key focus for DRO, however there is a **major opportunity for continued expansion** into other markets including civilian airports, prisons, stadiums and corporates
Key execution priorities	• **US sales**: converting trial and integration successes into large multi-million-dollar contracts • **Australia sales**: expanding on the initial $3.8 million Electronic Warfare contract into the next, and larger, contract • **Technology**: rapidly scaling the AI engine software for SaaS deployments • **M&A**: continue to review and successfully implement appealing acquisition options. $3.7 million investment into DRO by Epirus in Nov 2022, a US tech unicorn

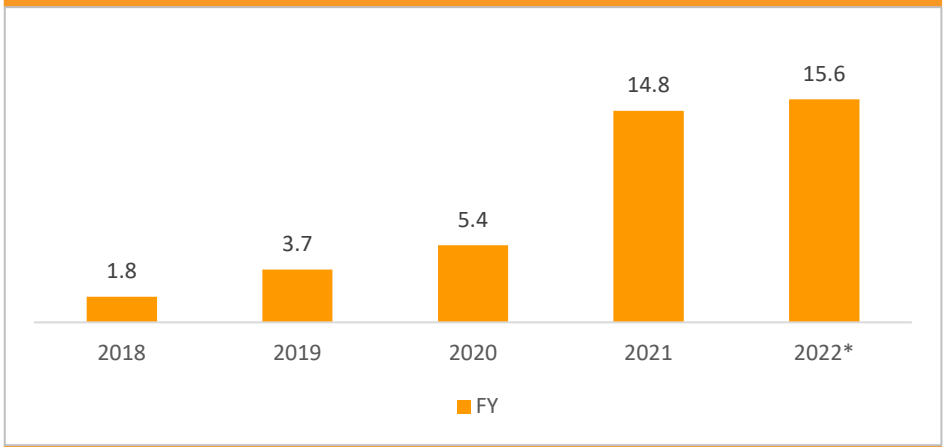
Continued Rapid Growth (A$m, Dec YE)

Rapidly improving financials, as the business stands at an inflection point into 2023

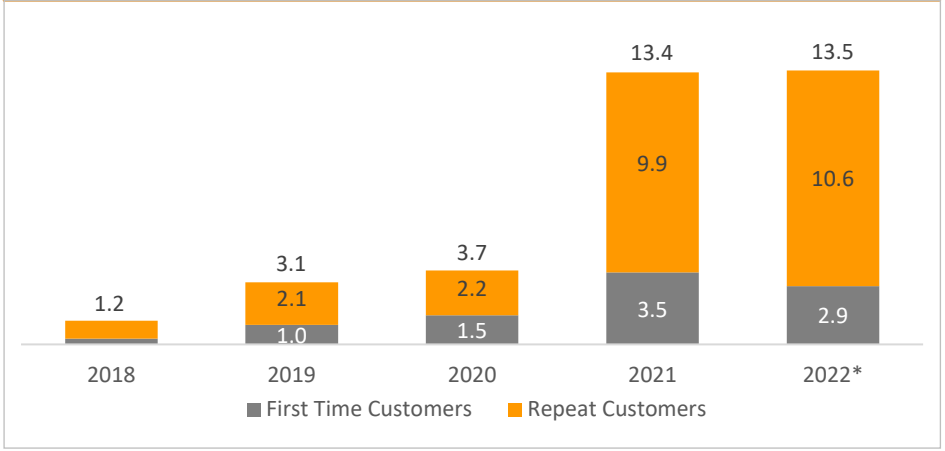
Strong Revenue Growth



Rapid Cash Receipt Growth (Sales + Grants)



Customer "Stickiness": Repeat vs First Time Receipts



*FY 2022 results are preliminary unaudited figures

Epirus Investment and Partnership

- In November 2022, DroneShield announced a strategic partnership with Epirus, which included a $3.7m investment at 20c for a 4.1% stake
- Epirus is a high-growth U.S. technology unicorn, developing software-defined directed energy systems that enable unprecedented counter-electronics effects and power management solutions to optimize power efficiency in defense and commercial applications
- This includes the Leonidas™ solid-state, software-defined high-power microwave (HPM) technology to enable unmatched counter-electronics effects for a range of use cases
- Epirus was founded in California in 2018 and has raised approximately US$300 million (approximately A$450 million) in funding since inception
- DroneShield and Epirus share a number of attractive synergies across technology and customer bases, and are both a part of the SAIC consortium, which has been recommended by JCO (part of U.S. Army) for counterdrone rollout across U.S. Department of Defense bases nationwide
- Epirus has deep linkages into a range of US Government agencies, which is expected to benefit DroneShield's US sales and create additional revenue streams

Geopolitical Environment

- Increased expenditure by Western Governments in response to the war in Ukraine
  - US DoD increasing 2023 budget to over US$800bn, a record peacetime amount
  - Germany increasing spending to over 2% of GDP (from 1.53% in 2021), including a new EUR100bn fund to modernise military
  - Poland have announced a record 2023 Defence budget of over US$20bn, being 3% of GDP
  - Australia is currently under a Defence Strategic Review, with expectations to increase the Defence spend and allocate an increasing budget to asymmetric, high-tech and greyzone warfare

- In Australia, the Government is seeking to rapidly grow sovereign defence capability, with several key focus areas directly matching DRO expertise, being counter-robotics, Electronic Warfare, battlefield surveillance (ISR) and defence technology capabilities more generally

- Record Defence and Security budgets, combined with a demonstrated use of drones by both sides in Ukraine for payload delivery, directing artillery strikes, collecting field intelligence and general use, has put increasing focus on both drone and counterdrone systems for all major militaries

- DroneShield is one of very few fielded and proven counterdrone systems with **US DoD recommendations** and based in Australia and US, hence well positioned to supply to Western allies

- Combined, these factors are expected to lead to meaningful and consistent order flow for DroneShield across near and medium term

Ukrainian men practice attaching a bomb to a drone

Iranian Shahed drones used by the Russian military

DRONESHIELD

Addressable Market

Image: DroneSentry™ system

Counterdrone: Multi-Billion Dollar Market by 2024

Rapidly improving and easily available drone technology is driving demand for counterdrone solutions

Military

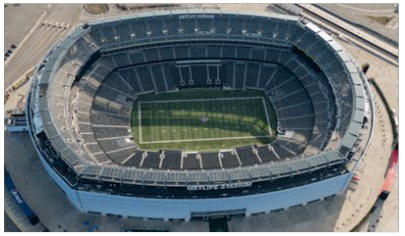
Government Facilities

Law Enforcement

Protective Details

Airports

Stadiums



Commercial Venues

Energy Production

High Profile Events

Shipping / LNG Ports

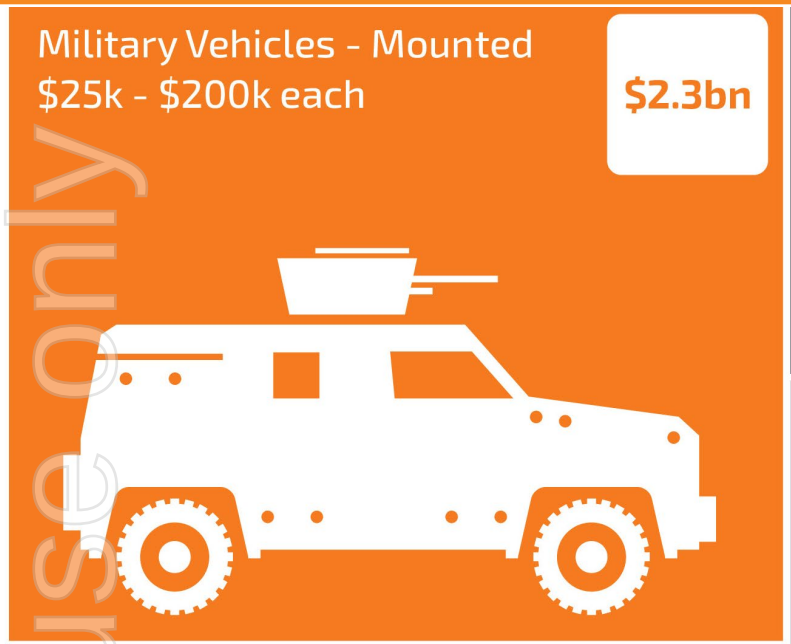
Rescue / Fire Response

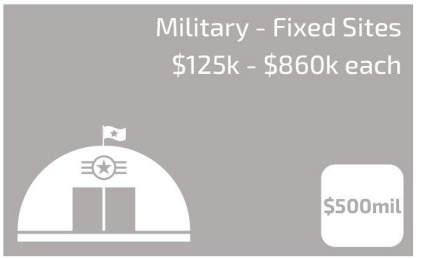
Correctional Facilities

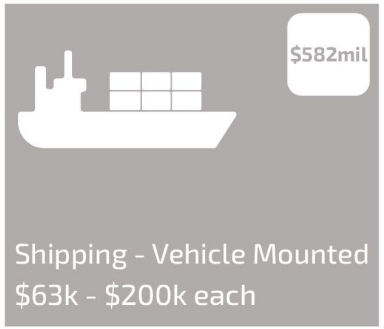
12

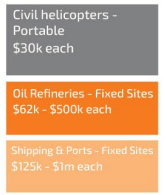
Sources:
Markets and Markets: https://www.marketsandmarkets.com/Market-Reports/anti-drone-market-177013645.html
Factors & Factors: https://www.globenewswire.com/en/news-release/2021/08/27/2287713/0/en/Global-Counter-UAV-Market-Size-Share-Expected-to-Reach-USD-2-041-09-Million-by-2026-Facts-Factors.html

US$10bn Total Addressable Market









Sources: https://www.droneshield.com/counterdrone-market

DRONESHIELD

DroneShield Capability and Product Overview

Image: DroneSentry-X™ at the Canadian Government Agency evaluation

DroneShield Capability Overview

High IP, yet mass-production hardware, with a software subscription platform and Electronic Warfare work

Hardware with Embedded Software and Associated Services

Dismounted & Body-Worn Counterdrone Solutions

DroneGun MKIII

DroneGun Tactical

RfPatrol

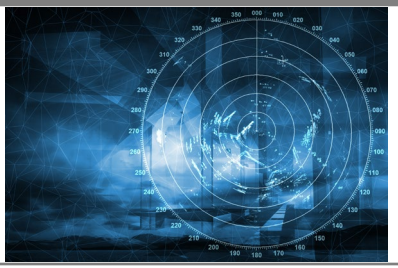
Vehicle / Ship / Fixed Site Counterdrone Solutions

DroneSentry-X

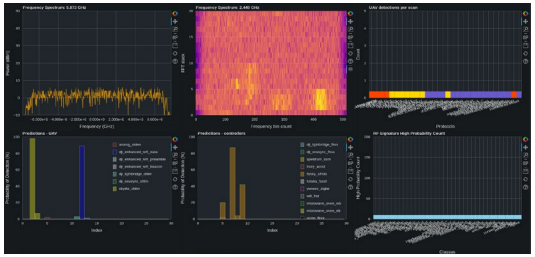
DroneSentry

Software (SaaS and R&D contracts)

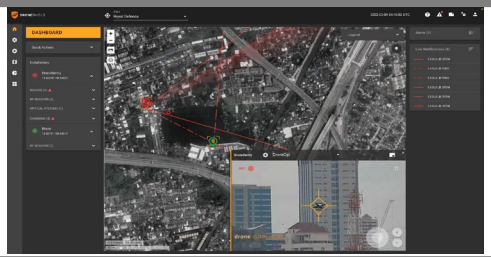
Electronic Warfare and SIGINT



RFAI (Radiofrequency AI engine)



DroneSentry-C2 and DroneOptID



- DroneShield has its own production facility, supplemented by outsourced manufacturers, to ensure ability to manage large hardware orders
- The focus is on software subscriptions, with hardware fleet serving as an enabling platform

Counterdrone detection solutions

DroneShield uses multi-sensor drone detection for optimal results, unaffected by time of day or weather

	Radio frequency	Radar*	Cameras*	Acoustic*
Imagery				
Overview	• Foundational layer • Detects drone comms protocols (via conventional RF library or an AI engine)	• Motion tracker - emits signals which are then reflected back to the radar by targets	• Electro-Optical (EO), Infrared (IR) and Thermal • Video analytics and image capture identification of drone activity	• Compares noise of drone blades or motor to a database of acoustic signatures
Advantages	✓ No interference with other sensors ✓ Tracks multiple targets ✓ Passive – cannot be “seen” ✓ Low false alarm rate ✓ Direction-finding capability ✓ Long ranges ✓ Cost effective	✓ Picks up drones without RF emissions ✓ Tracks multiple targets	✓ Best used for verification, classification and tracking of a target detected by other sensors ✓ Potential identification of payloads ✓ Provides “eye on target”	✓ Passive, cost effective ✓ Supporting sensor, filling gaps from other sensors
Disadvantages	× Doesn’t pick up RF-silent drones × Requires firmware updates	× False alarms (birds etc) × Is “seen” as emits energy × Longer range detection is expensive × Struggles with hovering drones	× Not well suited for detection on its own due to field-of-view vs distance trade-off × Short ranges	× Short range × False alarms × Cannot locate or track × Requires signature database updates

* Third party hardware, integrated into DroneShield combined multi-sensor solution, with differentiated offering via AI-powered software layers

Counterdrone defeat solutions

DroneShield uses smart jamming which has advantages over other technologies, particularly, in its use across civil and military applications, and does not compete against large Defence Primes

Exotic tech, limited reliability

Large Defence Primes dominance area

	Safe – "soft kill"		Kinetic – "hard kill"	
DRO offering	Smart jamming	Spoofing/Cyber	Counter-drone drones	Projectile fire kinetic systems	Directed energy (Laser or microwave)
Impact	No intentional damage to the drone		Physical force used with potential for destructive damage	
Imagery					
Overview	• Radio waves force a drone to fly back, hover, or land	• Hijacks the control of a drone	• "Kamikaze" or "catching" drones	• Remote weapons systems shoot down drones	• Lasers and high-power microwave systems "dazzle" or destroy a drone
Advantages	✓ Universal effectiveness ✓ 360-degree defeat coverage ✓ Effective against swarms ✓ Civil and military environments	✓ Allows for the re-routing and re-direction of malicious drone flight paths ✓ Applications in both civil and military environments	✓ "Catching" the drone is available to a wider range of customers	✓ Effective against Govt-grade drones ✓ Established technology for military operations	✓ Effective against Govt-grade drones ✓ Systems can be mounted on naval vessels for complex defence systems
Disadvantages	× Potential for collateral interference (for a "dirty" jammer)	× Not effective against all drones × Higher chance of collateral damage	× Generally slow to deploy × Not effective against swarms	× Collateral damage × Unsuitable for use in a civil environment	× In early stages × Only available for military applications

DRONESHIELD | Competitor Analysis

DroneShield's competitive counterdrone advantage?

C-UAS market pioneer, with a culture of systematic innovation and understanding of channels to market

Market leading, differentiated technology…

- ✓ Multi-sensor detection, ID and tracking
- ✓ Best-in-breed detection range
- ✓ Best-in-breed defeat range

…across multiple platforms…

- ✓ Body-worn
- ✓ Vehicle/Ship mounted
- ✓ Fixed site

…underpinned by AI-powered SaaS…

- ✓ Proprietary software integrated across product suite
- ✓ Difficult to replicate
- ✓ Experienced development team for quarterly software updates

… and backed by high barriers to entry

- ✓ Experienced in-house veteran sales team
- ✓ Relationships and pipeline with global defence partners and clients in over 100 countries
- ✓ Deep in-house world-leading technology talent (40+ engineers)

Competitor analysis

DroneShield is the only global provider of own individual sensors, all integrated into a complete system, fully in-house

	DRONESHIELD	ANDURIL	CACI	LITEYE	Dedrone	ELECTRONIC WARFARE	Radio Hill	BLUEHALO	SRC
Country of origin									
Integrator	✓	✓	✓	✓	✓	-	-	-	✓
In-House Detect									
Dismounted	✓	-	-	-	-	-	-	-	-
Vehicle Mounted	✓	-	✓	-	-	-	-	✓	✓
Fixed Site	✓	✓	✓	-	✓	-	-	✓	✓
In-House Defeat									
Dismounted	✓	✓	-	✓	✓	✓	✓	-	-
Vehicle Mounted	✓	-	-	-	-	-	-	✓	-
Fixed Site	✓	-	-	✓	-	-	-	✓	✓
Commentary									
Platform information	✓ Most extensive product range in the market ✓ Large in-house IP portfolio ✓ Market leading performance	✓ Integrator-only via its Lattice platform ✓ Acquired Copius Imaging sensing technology	• Substantially an integrator • Acquired AVT, a smaller integrator	• Substantially an integrator	• Lower-performance technology • Focus on prison and police	• Handheld Dronekiller jammer gun • Lacks a full product suite	• Handheld DroneBuster jammer gun • Lacks a full product suite	• Titan detect-and-defeat- a halfway solution between a portable and vehicle product • LOCUST laser defeat	• Offer an expensive, competing product to DroneSentry • Lacks a full product suite
Detection	RF, EO / IR, Radar	RF, EO / IR, Radar	RF, EO / IR, Radar	RF, EO / IR, Radar	RF, EO / IR, Radar	-	-	RF	EO / IR, RF, Radar
Defeat	RF smart jamming	Drone on drone – Anvil product	-	Catching net, RF jamming	RF jamming	RF jamming	RF jamming	RF jamming, Laser	RF jamming
Geography focus	Global	USA, UK, Australia	USA	USA	Global	USA	Global	USA	USA
In-house technology portfolio	RF, EW, waveforms, AI, sensorfusion, computervision	Sensor integration	EO / IR sensors, gimbals, RF	Sensor integration	RF	Waveforms	RF	RF, Laser	RF, EW, radar

Note: Competitor analysis based on publicly available information

DRONESHIELD

Key Execution Priorities and Growth Strateg

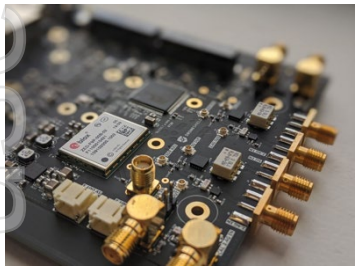
Image: DroneSentry-X™ in deployment

Strategy | Continue Leadership in Counterdrone, Grow Adjacent Capabilities and SaaS

Three-part Strategy

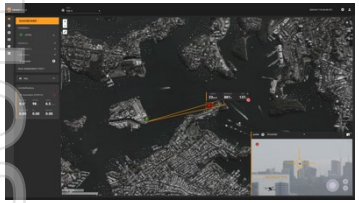
Continue Leadership in the Counterdrone/Unmanned Threat Sector

- The counterdrone market is growing rapidly, especially in the US
- DroneShield is well positioned as the industry pioneer, with on-the-ground US team, and Australia being part of the Five Eye intelligence alliance (US, UK, Australia, NZ and Canada)



Grow Adjacent Capabilities

- **Electronic Warfare** (EW): currently delivering on the second, $3.8m contract with the Australian Defence Force
  - EW includes obtaining intelligence of the radiofrequency signals on the battlefield and applying directed energy to jam, degrade, disrupt or neutralise an adversary capability
- **Command-and-Control and Tracking Systems:** providing a central display/control for numerous assets deployed in the field by military, law enforcement and Government agencies
- **Optical Detection and Tracking**: using proprietary AI algorithms to enhance optical/thermal camera capabilities to detect, identify and track objects for military, law enforcement, Government, airport and prisons



Grow SaaS (Software as a Service) element

- Existing counterdrone detection products include a meaningful ongoing subscription, which will continue to grow with the number of deployed devices in the field – DroneShield provides quarterly software updates
- Adjacent capabilities are purely or mostly software based, either with subscription or longer term R&D cashflows (including counterdrone training and simulation market)

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DRONESHIELD | Appendices

Drones - A Critical and Growing Threat Vector

Otago Daily Times

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Friday, 23 April 2021

Helicopter pilot horrified at close drone encounter

Forbes

Aug 3, 2021, 09:05am EDT | 18,681 views

Drone Striking World Trade Center Is A Wake-Up Call

David Hambling Contributor

Aerospace & Defense

I'm a South London-based technology journalist, consultant and author

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w York Post reports that a small drone has slammed into a buil
Trade Center complex. No terrorist threat is suspected, but the
ke-up call to the potential threat posed by such drones.

Ultimate Heliport briefly shut down due to illegal drone activity

Written by defenceWeb - 4th May 2021

765

Ultimate Heliport in Midrand.

The Ultimate Heliport in the Waterfall precinct in Midrand was shut down for an hour on Monday after drones were observed flying in the helicopter flight path.

On 3 May shortly after 08:00, an Ultimate Heliport employee reported seeing two drones operating directly in the helicopter flight path of Ultimate

Home › Nation

Army opens fire on two drones found hovering over Ratnuchak-Kaluchak military areas in Jammu

One drone was spotted at 11.45 pm on Sunday night and the other at 2.40 am, officials said. Both em.

The Big Payoff for Moderate Dems

Newsweek

11.26.2021

Death by DRONE

THEY'RE CHEAP, EASY TO GET AND POTENTIALLY LETHAL— A BAD COMBO IN THE WRONG HANDS

CRIME / COURTS

Drug cartels attack enemies and spread terror with weaponized drones in US, Mexico

Karol Suárez

Published 6:01 a.m. ET May 24, 2021

Middle East

Fire extinguished on oil tanker off Syria after suspected drone attack

IDF Shoots Down Hamas Drone That Crossed Into Israeli Territory

i24 by i24 News

A drone that Israeli troops recovered in southern Israel that the military said entered Israeli airspace from the Gaza Strip two days earlier, on August 15, 2021. Photo: Israel Defense Forces.

Saudi Arabi
Plants After

TRENDING

"Sidharth Shukla Sent Money During Lockdown": Pratyusha Banerjee's Father

"If We Die ...": What Afghan Resistance Leader, Killed, Had Told NDTV

Inside Rishi Kapoor's Birth Anniversary Party. The Cake Stole The Show

CNN World Africa Americas Asia Australia China Europe India Middle East United Kingdom Edition

Police hunt drone pilots in unprecedented Gatwick Airport disruption

By Sheena McKenzie and Gianluca Mezzofiore, CNN

Updated 0050 GMT (0850 HKT) December 21, 2018

News & buzz

'Almost intentional s
Doctor reacts to Trur
vaccine...

Analysis: Blow to Me
and Harry with UK w
ruling but...

Multiple drones hit northeast of Erbil, no casualties: sources

Middle East

Drone Attack Damages Hangar at US-Coalition Air Base in Iraq

By Edward Yeranian

May 08, 2021 01:54 PM

Drugs and weapons were given to the windows of the Donacona prison

Drone activity at Augusta Correctional Center in Craigsville causes lockdowns

Benefits and applications of safe, layered, counterdrone systems over kinetic systems

Safe counterdrone systems have many advantages over kinetic counter-drone systems, which are only practical for deployment in war-like scenarios

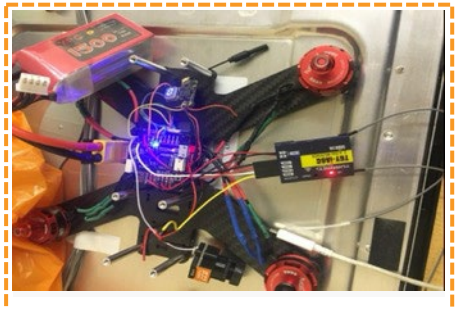
Avoidance of collateral damage

- DroneShield safe defeat solutions force drones to pre-set emergency protocols causing the drone to fly back to its starting point, hover, or land, allowing for the safe defeat of drones
- Alternatively, kinetic solutions could see a destroyed drone fall on crowds of people or inflict “friendly fire” from fired ammunition

Evidence for legal prosecution

- A drone which has been forced to land can be collected by local law enforcement to track the whereabouts of its controller
- As drones are usually accompanied by an image recording device, this can be used as legal evidence to prosecute offenders

Intelligence gathering



- Drones can often carry sensitive instruments or technology
- When forced to land, this technology can be exploited by military personnel to aid in intelligence gathering operations

Multi-platform with scale benefits

- Safe solutions can be carried on-the-man, mounted on light skinned vehicles and provide continuous passive protection unconstrained by ammunition stores
- Kinetic counter-drone solutions are often mounted on heavy, remote weapon stations and constrained by magazine depth

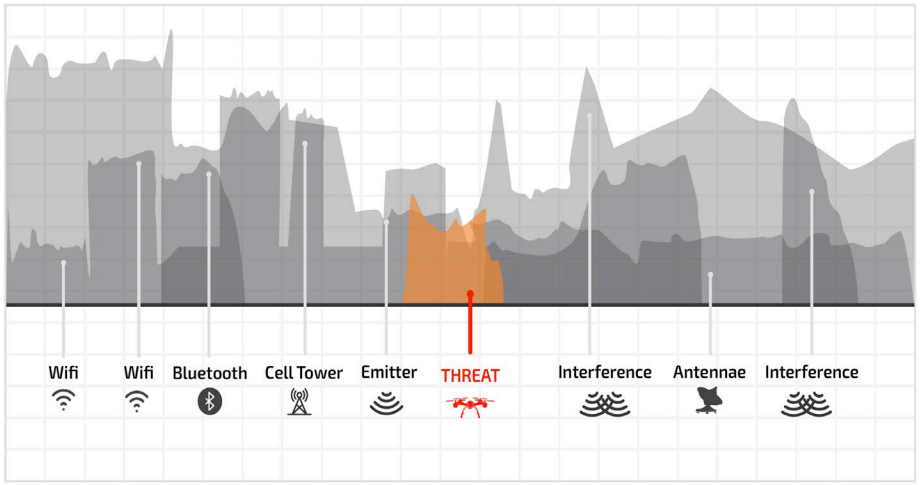
DroneShield AI Software Sees Through Noise – Radiofrequency Spectrum

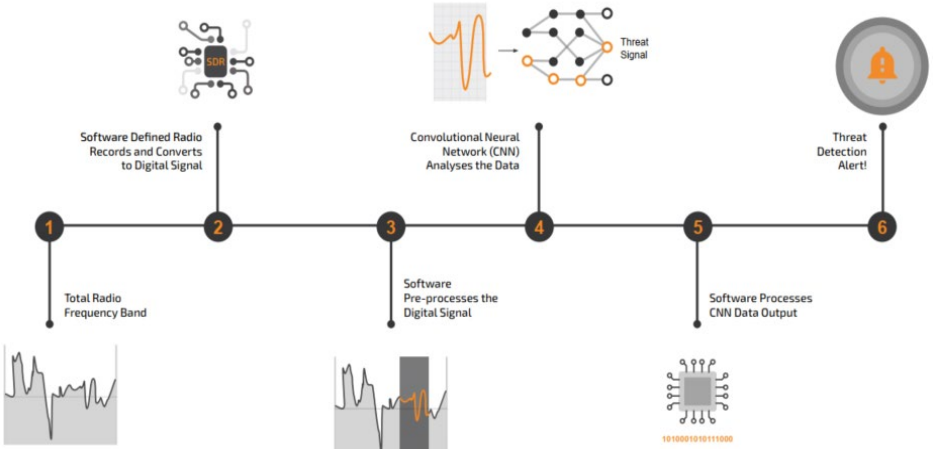
World leading proprietary RF AI platform for protection against advanced threats, such as drones

- Drones operate in arguably the densest parts of the Radio Frequency ("RF") Spectrum with "noise" coming from all kinds of other emitters including Wi-Fi, Bluetooth, cell towers and antennas
  - Consequently, counter-drone detection technology needs to be able to pull a signal out of all the other "noise", while still maintaining a low false alarm rate
  - Achieving this using traditional techniques, especially in a very cluttered environment, is very difficult – if not impossible

- Consequently, DroneShield has developed a cutting-edge spectrum awareness capability using proprietary Artificial Intelligence techniques through its RFAI™ engine

- The RFAI™ engine receives quarterly updates (intra-quarter updates also available) which get pushed to the devices deployed across the globe in a variety of ways suitable for the security of the end user





DroneOptID AI Software – Optical and Thermal Spectrum Counterdrone Surveillance

DroneShield's DroneOptID™ AI engine detects and tracks complex threats such as drones in cluttered environments

- Drones are small, fast-moving objects, hard to detect with naked eye more than 50m away, against complex background

- Cameras on their own cannot detect and track drones at any meaningful distance, due to
  - the trade-off between the camera Field-of-View (FoV) and Depth. A wide FoV would only see drone at a close distance. A narrow FoV means only looking at a tiny part of the area
  - Even once an object is detected, separating drones from birds is difficult, especially for fixed wing drones

- To enable cameras to accurately detect and track drones and other objects, DroneShield has developed a proprietary AI engine DroneOptID™, in conjunction with University of Technology Sydney, with DroneShield retaining the IP
  - DroneOptID™ uses the latest in Computer Vision technology to detect, identify and track drones in real time, cutting through all the other "noise"
  - The software takes geographical and environmental data from other sensors in order to slew and validate a drone threat. Once the drone is in the field of view of the camera, using proprietary DroneShield algorithms, the DroneOptID™ software uses motion tracking and machine learning techniques to identify and track the target

- Further development is currently under way, funded by the Australian Department of Defence

Artificial Intelligence in Electronic Warfare

DroneShield is favourably exposed to the fast-growing Electronic Warfare business segment

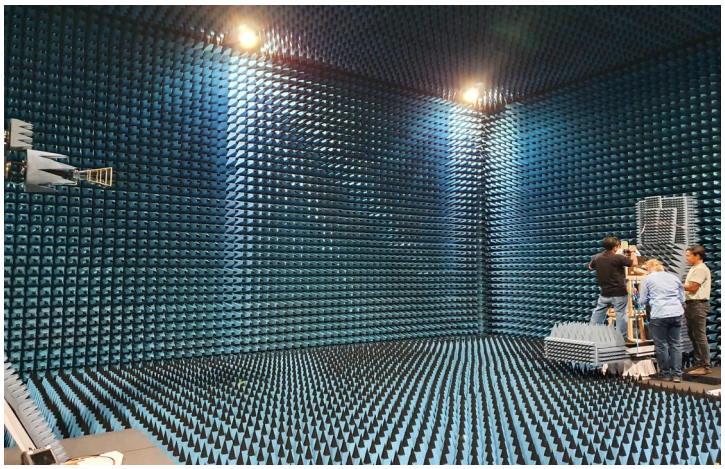
- **Electronic warfare (EW) is** any action involving the use of the electromagnetic spectrum (EM spectrum) or directed energy to control the spectrum, attack an enemy, or impede enemy assaults. The purpose of electronic warfare is to deny the opponent the advantage of—and ensure friendly unimpeded access to—the EM spectrum

- Demand for smart EW technologies to jam, degrade, disrupt or neutralise an adversary capability are rapidly growing and are an essential part of modern warfare

- Given the overlap with DroneShield's counter-drone AI technology and the minimal Australian based competition in EW technology, DroneShield is in the box seat to exert dominance in this rapidly growing area

- In 2021, DroneShield received a A$3.8 million, 2-year R&D contract with the Australian Department of Defence
  - Contract was awarded on a sole source basis. Importantly, the contract was not in counter-drone, but EW and Signals Intelligence, an adjacent area utilising an existing DroneShield skillset, but with much wider applications.

- Additional, and larger, contracts are expected with the Australian Department of Defence, as DroneShield builds up its AI capabilities in the EW and Signals Intelligence arena



Seasoned senior sales and engineering teams

DroneShield's experienced team carries a solid track record of delivering growth

Peter James

Independent Non-Executive Chairman

- Peter joined DroneShield's Board of Directors in April 2016
- Over 30 years of experience in the Technology, Telecommunications and Media Industries
- Chairman of ASX-listed companies including Macquarie Telecom and Nearmap

Oleg Vornik

CEO and Managing Director

- Oleg joined DroneShield in 2015, and the Board of Directors in January 2017
- Responsible for overseeing DroneShield's market strategy
- Senior executive experience includes Royal Bank of Canada, Brookfield, Deutsche Bank and ABN AMRO

Jethro Marks

Independent Non-Executive Director

- Jethro joined DroneShield's Board of Directors in January 2020
- CEO and co-founder of the Mercury Retail Group
- Extensive commercial experience in successfully scaling a multinational business

Carla Balanco

CFO and Company Secretary

- Carla joined DroneShield in mid-2018
- Instrumental in scaling the company's financial management systems
- Experience working in Chartered, Commercial and Business Development roles

Red McClintock

Sales Director

- Red served 23 years as an officer in the Royal Australian Navy
- Prior to joining DroneShield, Red worked for five years with BAE Systems as a Business Development and Account Manager

Tom Branstetter

U.S. Director of Business Development

- U.S. Navy veteran and former Navy SEAL
- Focus across DoD and other federal agencies
- Tom holds a Bachelor of Arts degree in Entrepreneurship

Angus Bean

Chief Technology Officer

- Angus joined DroneShield in early 2016
- Merges the fields of mechanical hardware, electronics, software, digital interface and technology
- Experience as the development lead for Australia's largest industrial design and engineering consultancy

Lawrence Marychurch

Vice President, Design

- Lawrence joined DroneShield in 2018 and has a background in Industrial Design
- Manages a team of industrial designers and mechanical engineers as well as DroneShield's in-house production team
- Responsible for DroneShield's wide base of Australian and international component suppliers

Hedley Boyd-Moss

Vice President, Engineering

- 30 years of global RF and Electronic engineering
- Working knowledge of regulatory compliance standards
- Specialist knowledge in areas such as antenna manufacturing and RF communication modulation techniques

Matt McCrann

U.S. CEO

- Experienced business development executive
- Over 15 years of experience in the Defense and National Security sector
- Served in the US Navy as an Intelligence Analyst and a member of NSA/CSS's Cryptologic Direct Support Element

Lyle Halliday

Chief Operating Officer

- Lyle is an experienced Systems Engineer with a background in medical device product development
- Responsible for implementation of processes to ensure customer expectations
- Engineering experience spans electrical, mechanical, manufacturing and software

Carl Norman

Embedded Product Engineer

- Carl is an experienced embedded product engineer who joined DroneShield early in 2019
- Over 25 years of experience in electronic product design, manufacturing and project management
- Background in RF products, analogue, embedded and high speed digital systems

Industry and Media Recognition

ASX-listed DroneShield wins US Defence contract

Matthew Cranston
United States correspondent

Oct 5, 2022 – 6.04am

Washington| ASX-listed anti-drone technology company DroneShield has won a $1.8 million contract with the US Department of Defence and says the win will open doors to significantly larger contracts with the world's biggest military.

In what is the company's largest US sale to date, DroneShield will provide dozens of DroneGun MKIIIs – a two kilogram pistol that sends a signal which neutralises an attacking drone or drone swarm.

RELATED QUOTES

DRO $0.170 ▲ 3.03%

1 year 1 day

0.315

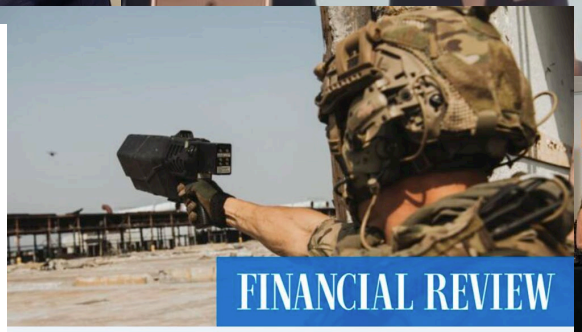
0.225

DroneShield (ASX:DRO) selected for ISREW panel

ASX News, Technology

ASX:DRO MCAP $71.36M

Julia Seymour
Markets Presenter/Reporter
julia.seymour@themarketherald.com.au
07 September 2022 15:23 (AEDT)



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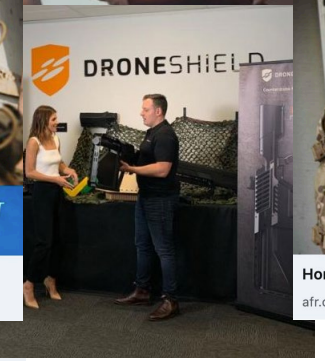

Homegrown defence company helping Ukraine take out Russian drones

afr.com • 1 min read

News October 5, 2022

DroneShield Launches Regional NSW Testing Facility

bitte Technology Fast 50 Australia

www.droneshield.com DRONESHIELD

Continuous Significant Momentum

- **DroneShield LLC Incorporated** (January 2014)
- **First Acoustic Sensor Sold** (February 2014)
- **DroneShield Limited incorporated** (September 2015)
- **DroneShield Limited IPO** (June 2016)
- **DroneGun MKI Launched** (November 2016)
- **DroneSentry Launched** (July 2017)
- **DroneSentinel Launched** (July 2017)
- **DroneGun MKII Launched** (September 2017)
- **DroneGun Tactical Launched** (February 2018)
- **$3.2m Order with Saudi MoD** (June 2018)
- **DroneGun MKIII Launched** (July 2019)
- **RfPatrol MKI Launched** (April 2019)
- **$9.55m Capital Raise** (August 2019)
- **Partnership with British Telecom** (September 2019)
- **Australian DoD Purchases RfPatrol** (October 2019)
- **DroneSentry-X Launched** (November 2019)
- **Initial US Agency order** (March 2020)
- **RfPatrol MKII Launched** (April 2020)
- **USAF Grand Forks order** (July 2020)
- **US ARFL C2 funding** (September 2020)
- **Government Agency DroneGun Tactical order** (October 2020)

- **Swiss Airport Deployment** (December 2020)
- **Multiple Sentry-X order** (March 2021)
- **RFAI rollout** (February 2021)
- **US Law Enforcement order** (April 2021)
- **2x $1m repeat US Agency order** (March 2021)
- **$7.4m in quarter cash receipts** (July 2021)
- **$3.8m Government Agency order** (June 2021)
- **CompassOne launched** (August 2021)
- **DroneSim launched** (August 2021)
- **DroneShield receives exemption by ACMA** (December 2021)
- **$14.8m in yearly cash receipts** (December 2021)
- **DroneShield deployed at IRONMAN Texas** (April 2022)
- **Partnership with Nearmap** (April 2022)
- **$2m European Order** (September 2022)
- **First U.S. Airport Deployment** (August 2022)
- **$1m Order of DroneSentry-X** (November 2022)
- **$1.8m US DoD Contract** (October 2022)
- **$11m Gov Agency Record Order** (December 2022)
- **$3.7m Epirus Investment** (November 2022)
- **Second $11m Order** (January 2023)
- **Today**
- **2023 & Beyond**

Capital Structure

Capital Structure	
DRO Shares on Issue	451,041,985
DRO Options on Issue[1]	35,755,001
Fully Diluted Shares on Issue	**486,796,986**
Fully Diluted Equity Value[2]	$180.1m
Cash[3]	$10.3m
Debt	$nil
Fully Diluted Enterprise Value	**$169.8m**

[1] Options issued at various strike price and maturities. For full information please refer to ASX releases
[2] At 37c per share, as at 30 January 2023
[3] As at 31 December 2022

Director and Employee Shareholdings

Oleg Vornik, CEO and Managing Director	8,077,022 shares 10,250,000 options[2]	3.76%[1]
Peter James, Independent Non-Executive Chairman	6,301,688 shares 5,132,500 options[2]	2.35%[1]
Jethro Marks, Non-Executive Director	666,666 shares 1,083,334 options[2]	0.36%[1]
Other Employees	22,938,954 shares 13,416,667 options[2]	7.47%[1]

[1] On a fully diluted basis
[2] Options issued at various strike price and maturities. For full information please refer to ASX releases

Research Coverage

BELL POTTER

PELOTON CAPITAL

Image: RfPatrol™ at the Rheinmetall and Team SABRE (Safran, Nova Systems, BAE Systems) stands at Land Forces 2022

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