Friday, 14 June 2024

RESEARCH REPORT

Price Target	$1.52
Share Price	$1.42
Implied Return	7.04%

DroneShield (ASX:DRO)

Securing the skies

Initiation report

- In the right place, at the right time. Drones and counterdrone systems are currently used in every conflict worldwide, including the Ukraine war, Hamas attacks on Israel, Houthi attacks in the Red Sea, and most recently, the attacks on the US bases in Jordan.
- Whilst defence serves as a key focus of core operations, DRO caters to a wide range of sectors (full list on page 7). Civilian airports, critical infrastructure, prisons, stadiums, and corporate entities, hold significant potential for substantial growth.
- DRO is growing, rapidly. Its revenue has surged with a CAGR of approximately 100% since 2019, marking a remarkable increase of nearly 230% in the past year alone. With a 2024 pipeline valued at $375 million, and an additional $145 million worth of projects tracked for 2025 and beyond (as of March 31, 2024), there are no signs of this growth slowing down.
    - To support this growth, DRO has recently relocated its headquarters to Pyrmont, Sydney, now occupying a space three times larger than its previous one. This new facility boasts a dedicated floor for high-tech R&D, engineering, and manufacturing. In addition, Chief Technology Officer Angus Bean has indicated plans to increase the employee headcount from 140 to 170 by the end of 2024.
- Pioneer in C-UAS technology. DRO has a comprehensive multi-mission counter-drone arsenal, featuring products tailored for every scenario.
    - For detection – radiofrequency. This involves passive listening and sensing as the drone approaches the target.
    - For defeat – smart jamming. This device disorients the drone without firing any projectiles or lasers. Instead, it directs signals towards the drone, causing confusion and prompting it to land safely.

Earnings estimates

		CY22A	CY23A	CY24F	CY25F	CY26F
Sales	$m	16.9	55.1	76.5	106.1	127.3
growth		*59.3%*	*226.2%*	*38.9%*	*38.7%*	*20.0%*
EBITDA	$m	(2.0)	3.7	21.4	29.8	35.8
D&A	$m	0.9	1.5	1.7	1.8	1.9
EBIT	$m	(2.9)	2.2	19.7	28.0	33.9
margin		*(17.5%)*	*4.0%*	*25.8%*	*26.4%*	*26.6%*
NPAT	$m	(0.9)	9.3	16.1	22.3	26.8
Margin		*(5.6%)*	*16.9%*	*21.0%*	*21.0%*	*21.1%*
Adj EPS	cps	(0.21)	2.07	1.99	2.77	3.33
PE	x	(465.6)	47.4	49.2	35.4	29.5

***Source**: Company data and Personal estimates*

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Company Data

ASX code	DRO
ASX price	$1.42
Shares on issue[1]	818.5m
Market capitalisation	$1.10B
Cash on hand[2]	$$171.4m
12-month price range	$0.21-$1.14
ASX turnover (3m avg. daily vol.)	8.1m

[1] Fully Diluted Shares on Issue (13/05/2024)
[2] Cash = Using 31 March 2024 cash balance of $56.4m and applying $100m Placement and $15m SPP gross proceeds

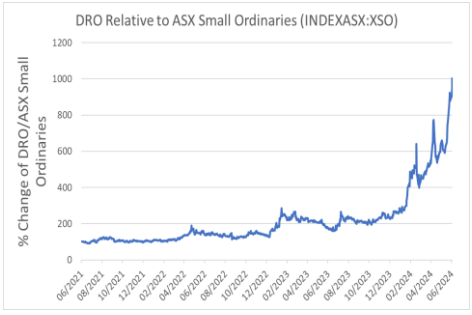
Key Personnel

Oleg Vornik	CEO & Managing Director
Matt McCrann	CEO, DroneShield (USA)
Angus Bean	Chief Technology Officer
Carla Balanco	Chief Financial Officer
Raffael Blattner	Operations Manager

Major Shareholders

Epirus Inc	3.02%
Charles Goode	2.63%

Price Chart



***Source**: FactSet*

All figures in AUD unless stated otherwise

Investment summary

Investment thesis

- The market is experiencing structural growth driven by escalating global hostilities, leading to a substantial increase in defence budgets worldwide. In 2021, aggregate military expenditure surpassed US$2 trillion for the first time. Notably, asymmetric warfare, such as drones and counter-drone defence, is emerging as one of the fastest-growing subsets within this expanding military market, aligning with the core competency of DRO.
- DRO's suite of products cater to a wide range of sectors. This diversifies its risk across industries, reducing reliance on any single market, whilst expanding its market reach, enabling access to diverse customer bases and fostering potential for sales and revenue growth.
- DRO has seen remarkable revenue growth, with 2023 revenue soaring to $55.1 million, a staggering +228% YoY increase. The outlook remains promising, supported by a robust 2024 project pipeline valued at $375 million, with an additional $145 million of projects tracked for 2025 and beyond (as of March 31, 2024).
- DRO is well funded to support current sales pipeline. DRO has recently completed a fully underwritten two-tranche Placement of $100 million. In addition to this, the company has conducted a Share Purchase Plan (SPP) totalling $15 million.
- DRO has a prime opportunity to expand into adjacent markets by leveraging its AI/ML expertise from the counter-drone sector. This includes capitalising on a $10 million Five Eyes DoD contract to enhance its Electronic Warfare (EW) offerings and utilising software-centric approaches for scalable solutions. Exploring broader distribution channels within the AUKUS alliance further boosts DRO's global reach in EW, setting the stage for substantial growth beyond its core business.
- While defence, intelligence communities, and border security remain primary focuses, there exists a significant opportunity for expansion into civilian airports, critical infrastructure, prisons, stadiums, and corporate sectors.
- DRO has global tier 1 customers. This includes the Australian Department of Defence, US DoD, and US State Department.
- DRO does not directly compete with the major C-UAS companies in this sector. Defensive prime contractors are well-suited to handle large, complex, and expensive projects. However, for agile and rapidly evolving technologies, smaller players like DRO are better equipped to provide specialised services. Interestingly, the major players actually recommend DRO for certain client needs and collaborate with them accordingly.

Business overview

DRO is an Australian defence manufacturer specialising in counterdrone technology. Affordable consumer-grade drones (Unmanned Aircraft System or UAS) have become popular around the world, but they present unique and frequent threats to privacy, physical security and public safety in a wide variety of environments.

DRO provides an end-to-end counter-drone solution that integrates proprietary artificial intelligence software with a suite of hardware products that identify, detect and defeat UASs to civil infrastructure operators, militaries, and other government and commercial users globally. The Company's products are largely in-house technology and include handheld, vehicular and fixed installations.

Founded in 2014 and listed on the ASX in 2016, DRO provides Artificial Intelligence platforms for protection against drones. Hardware and software to detect and safely neutralise small drones used in warfare, terrorism, contraband delivery, and airport disruptions.

What is C-UAS (Counter-Unmanned Aircraft System)?

Counter-UAS (C-UAS) is a term that includes the detection, tracking, and disruption of unmanned aerial systems, addressing various types including UAVs, UGVs, and USVs.

How can C-UAS help?

The demand for Counter-Unmanned Aerial System (C-UAS) technologies has grown across industries as easily accessible drones pose a risk by evading conventional security measures, endangering public safety. While initially focused on military and law enforcement sectors, the expanding threat landscape underscores the need to protect airports, critical infrastructure, and crowded public venues from unauthorised drone incursions.

Product and service offerings

DRO has three streams of revenue:

- Hardware (drone detection and defeat devices)
- SaaS (device software updates)
- R&D (Electronic Warfare and Signals Intelligence)

All solutions except for radars and cameras hardware are fully developed in-house.

Hardware

	Name	Image	Description
Dismounted	DroneGun Mk4		• The device maintains DroneGun Mk3's versatility while offering increased disruption performance, wider environmental adaptability, and an improved pistol grip compared to DroneGun Mk3 • Weight: 3.2kg (7lbs) including battery
	DroneGun Tactical		• A UAS countermeasure designed for two hand operation and long-range defeat • Weight: 7kg weight, no backpack
	RfPatrol Mk2		• Wearable AI-enabled detection tool, detecting drones in motion at any speed • The RfPatrol offers two operational modes, 'Stealth' and 'Glimpse', granting users control over how they receive alerts • Weight: 800g (1.76lbs)
On-The-Move	DroneSentry-X Mk2		• Versatile detection and disruption system • Suitable for mobile, pop-up, and fixed-site protection • Designed for harsh environments; mountable on vehicles, vessels, and unmanned platforms • Can be installed permanently or on tripods/towers for local or remote operations

Fixed Site	DroneSentry		• DroneSentry is an autonomous fixed Counter Unmanned System (C-UxS) that combines DRO's sensors and countermeasures into a unified, responsive platform. • DroneSentry correlates situational data to offer maximum awareness for automatically identifying and responding to Unmanned System (UxS) intrusions or threats. **System components included:** • **RfOne Mk2** – Passive/non-emitting RF detection product, usable stationary or in vehicles, providing accurate drone detection and tracking over long ranges. • **DroneCannon Mk2** – Integrated within the DroneSentry C-UAS system, providing 90-degree coverage per unit, extendable to 360 degrees with four units. • **DroneOpt** – Enhanced AI optical detection, identification, and tracking software. • **Radars** – Includes *RADA RPS-82, Echodyne EchoShield and Echodyne EchoGuard.* Radars deliver precise, ultra-high confidence threat detection and tracking, even in cluttered environments. DroneShield integrates radars into its DroneSentry-C2 Command and Control platform, providing coverage display, configuration, and activation for deployments and installations. • **SmartHub** – Multi-sensor fusion network device facilitating seamless networking of multiple DRO sensors and countermeasures.
Combined Solutions	Immediate Response Kit (IRK)		• Contains the RfPatrol for detection and the DroneGun Mk4 for defeat, integrated in a single rugged case solution

Several older models, such as the DroneGun Mk3 and DroneSentry-X, have been left out of the table above due to declining sales.

Software as a Service (SaaS)

Customers receive quarterly software updates for DRO's C-UAS devices via subscribing in a SaaS model at the time of purchase of their systems. The engines perform real-time, edge-based detection and identification of drones and other potential threats. This enhances detection responsiveness, reduces false positives, and accelerates the detection, classification, and tracking of new threats by DRO's systems.

The products that require SaaS updates are: DroneSentry, DroneSentry-X, DroneCannon, RfOne, and RfPatrol. In the future, the plan is to build guns that require SaaS updates, so all DRO products will be required to have SaaS updated inbuilt. All SaaS solutions are fully developed in-house.

RFAI (Radiofrequency AI engine)

- RFAI is the company's proprietary software engine.
- RFAI relates to the wireless communications, radar, sensing, signals intelligence of DRO's C-UAS devices.

DroneSentry-C2 Command-and-Control

- DroneSentry-C2 relates to the user/interface for DroneSentry. The platform offers comprehensive counter-UAS awareness and reporting capabilities by seamlessly integrating DRO and third-party C-UAS sensors and effectors.
    - An optional supplementary component of DroneSentry-C2 is **DroneOptID**, which is a camera-agnostic optical/thermal camera AI software specifically designed for use with the DroneOpt camera embedded within the DroneSentry device.
    - The software utilises geographical and environmental data from various sensors to accurately pinpoint and confirm drone threats, employing proprietary DRO algorithms. Upon the drone entering the camera's field of view, the DroneOptID software employs motion tracking and machine learning methods to identify and track the target.

Research & Development (R&D)

Electronic Warfare

Electronic warfare (EW) encompasses activities utilising the electromagnetic spectrum (EM spectrum) or directed energy to control the spectrum, offensive actions against the enemy, or hindering enemy assaults. The primary objective of EW is to prevent adversaries from gaining an advantage in utilising the electromagnetic spectrum while ensuring unimpeded access for friendly forces.

The EM spectrum refers to the entire range of frequencies of electromagnetic radiation, spanning from extremely low-frequency (ELF) radiation to gamma rays. It includes diverse types of electromagnetic waves, such as radio waves, microwaves, infrared radiation, visible light, ultraviolet radiation, X-rays, and gamma rays.

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.

DRO became engaged in EW after entering into a contractual agreement with the Australian government. The Australian government expressed interest in DRO's advanced AI firmware that is aimed at detecting previously unidentified drones. This interest stems from the proliferation of thousands of new drone models annually, prompting DRO to employ AI firmware as a proactive measure against this evolving threat landscape. The focus lies on the detection of previously unseen drones within military contexts.

DRO possesses a comprehensive range of capabilities, including the identification of Signals of Interest (SOI) for threat detection and intelligence gathering. Additionally, DRO specialises in constructing integrated solutions within operationally deployed ISREW networks, rather than standalone systems. In Electronic Attack (EA), DRO employs directed electromagnetic energy to disrupt adversary capabilities and communications networks across the EM Spectrum. Advanced data tagging and cleaning techniques, coupled with the ability to generate synthetic data, enhance DRO's AI capabilities.

DRO's Technology

All figures in AUD unless stated otherwise

For detection of drones – radiofrequency

- Detects drone communication protocols using either a conventional RF library or an AI engine.
- The system features no interference with other sensors, tracks multiple targets, operates passively, and cannot be detected, maintains a low false alarm rate, includes direction-finding capability for long ranges, and is cost-effective; however, it does not detect RF-silent drones and requires firmware updates.

For defeat of drones – smart jamming

- Smart jamming involves sending sophisticated blocking capabilities to disrupt or disable enemy communication systems, radar, or other electronic devices.
- DRO's C-UAS products that use smart jamming, can autonomously identify and target specific signals or frequencies, then emit jamming signals to interfere with or block the targeted devices' functionality.
- Safe operation of smart jamming drones involves employing a "soft kill" approach, meaning the drone aims to land safely. This ensures that there is no intentional damage inflicted on the targeted drone.

This technology is safe for both humans and drones, which is particularly significant in the ESG context.

Here is an overview of Smart Jamming compared to other counterdrone systems.

DroneShield Offering | Safe – "soft kill" (No intentional damage to the drone) | Exotic Tech, Limited Reliability | Kinetic – "hard kill" (Physical force used with potential for destructive damage) | Large Defence Primes Dominance Area

	Smart Jamming	Spoofing/Cyber/ Protocol Manipulation	Counter-Drone Drones	Projectile Fire Kinetic Systems	Directed Energy (Laser or Microwave)
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 × 30-90sec per drone to engage, can't engage multiple drones same time	× 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

The deployment of safe counter-drone systems presents numerous advantages compared to kinetic counter-drone systems, which are primarily feasible for use in war-like situations.

- **Avoidance of Collateral Damage**
  - DRO safe defeat solutions involve forcing drones into predetermined emergency protocols, causing them to return to their starting point, hover, or land safely, effectively neutralising the threat.
- **Evidence for Legal Prosecution**
  - Drones forced to land can be retrieved by local law enforcement for tracking the controller's location.
  - Image recording devices typically accompany drones, providing legal evidence to prosecute offenders.
- **Intelligence Gathering**
  - Drones frequently carry sensitive instruments or technology.
  - Upon forced landing, military personnel can exploit this technology for intelligence gathering operations.
- **Multi-Platform with Scale Benefits**
  - Safe counter-drone solutions can be portable, mounted on light-skinned vehicles, offering continuous passive protection without reliance on ammunition stores.
  - Kinetic counter-drone solutions typically require heavy, remote weapon stations and are limited by magazine capacity.

Sectors

Airports	 *DroneSentry-X mounted on a mast.*	**Infrastructure, Energy & Utilities**	 *RfPatrol offers the user real-time monitoring without distraction or complex operation.*
Corporations		**Law Enforcement**	 *RfPatrol in use by aerial firefighters.*
Events, Stadiums & Venues	 *DRO Deployment at 2018 Olympic Winter Games in PyeongChang, South Korea.*	**Maritime and Vessels**	 *DroneSentry-X detect and defeat cross-compatible vehicle or ship mounted sensor.*
Executive Protections & VIPs	 *DroneGun Tactical wielded by Belgian Federal Police for anti-drone protection at a meeting between US and Belgian President. (June 2021).*	**Military**	 *DroneSentry-X mounted to UGV demonstrated at Army Robotics Exposition.*
Government Agencies	 *RfOne Detection Temporary Installation on Government Agency building rooftop.*	**Oil, Gas & Mining Facilities**	 *DroneSentry-C2 software Planning Tool large site facility Plan.*
Correctional Facilities	 *RfOne temporary mobile trailer variant deployment at a Queensland Prison Demonstration.*		

All figures in AUD unless stated otherwise

Defence is a vast majority of revenue. Defence, intelligence community and border security will continue to be the key focus, however there is a major opportunity for growth into civilian airports, critical infrastructure, prisons, stadiums and corporates.

- **Civilian Airports**
  - Numerous incidents of unmanned aerial systems (UAS) flying dangerously close to airports and aircraft have been reported worldwide, leading to several near collisions.
  - In Australia, the Australian Aviation Network Overview 2023 highlighted a significant rise in drone activities. The air traffic control body reported a 16.3 percent increase in average daily drone flights in FY2023 compared to FY2022, with December 2022 marking the peak month for detections at 5,258 drone activities near airports.
    - Between January 1, 2021, and June 30, 2023, there was a notable increase in individual drone flights across major Australian cities: Sydney saw a 21.7 percent rise, Adelaide experienced a 60.4 percent surge, Brisbane recorded a 22.4 percent increase, and Perth had an 11.6 percent uptick.
  - From an international perspective, several notable incidents involving drones include a Eurofighter landing at a Bavarian airport and hitting a drone, causing damage; the rising threat of drone misuse in critical zones; the National Agricultural Aviation Association (NAAA) cautioning drone pilots not to interfere with agricultural aircraft; a British Airways flight narrowly dodging a drone collision over Kent; Australia implementing a dedicated drone traffic control system; chaos caused by a drone dropping a bomb at Goma Airport, leading to damage and accusations from the DR Congo against Rwanda; and the Transportation Security Administration (TSA) conducting its first drone response training outside the U.S. since COVID-19 due to increasing drone threats.
  - Airports enhance security with DRO's technology, which detects drone presence and disrupts potential threats through modules deployed around site perimeters. DRO's multi-sensor approach enables accurate differentiation between drones and other objects, ensuring effective mitigation of security risks.
- **Critical Infrastructure**
  - Drones are becoming indispensable tools in Australia's critical infrastructure, serving dual roles as assets and potential security threats.
  - CEO Rachael Falk of CSCRC highlights UAV susceptibility to exploitation by cyber threats, posing risks such as data breaches, unauthorised access to infrastructure, and service disruptions.
  - Rapid drone proliferation forecasts a global market exceeding $67 billion by 2029, with production scaling from 2 million units in 2021 to 6.5 million by 2030, heightening urgency for robust cybersecurity measures.
  - DRO supports authorities by offering early detection and disruption capabilities against UAS threats near critical infrastructure. Their systems employ advanced sensor technologies to accurately distinguish UAS from harmless airborne objects like wildlife.
  - Integrated seamlessly into existing security frameworks, DRO enhances operational readiness by delivering real-time alerts and precise location data. This capability enables swift and effective response measures to mitigate potential risks to public safety and national security.
- **Prisons**
  - Prisons and Correctional Facilities are increasingly vulnerable to smugglers using UAS to deliver contraband such as drugs, weapons, and cell phones onto their grounds.
  - Effective UAS detection and disruption are crucial for maintaining high security standards within these facilities. As a result, prison integrate DRO systems into their zone-based alarm systems for comprehensive monitoring of perimeters, airspace, and central facilities.
  - DRO's alert systems provide advanced warning of UAS activity and can be programmed to automatically disrupt UAS that breach specified perimeters.
  - DRO systems utilise a combination of sensors including Radio Frequency, Radar, and Optical Verification to ensure complete situational awareness over prison sites.
  - Fixed DRO systems offer detection ranges of up to 8km, enabling early identification of UAS threats well beyond the facility perimeter. Optional portable or fixed countermeasures are available to swiftly neutralise detected threats, with capabilities extending up to 2km from the system. DRO's fixed systems integrate seamlessly with the DroneSentry-C2 software, facilitating integration into existing security infrastructure through a RESTful API interface.
  - Several international reports have documented the use of drones for illicit activities, specifically the delivery of drugs and contraband to prisons across different regions. Instances include incidents in Ontario, where a man was apprehended for allegedly using a drone to deliver items to a maximum-security prison, as well as in New Brunswick, where a drone was employed to smuggle contraband valued at $250,000 into a prison. In British Columbia, reports from the Union of Canadian Correctional Officers indicate daily occurrences of drones delivering weapons and drugs into prisons, often disguised in various forms. Additionally, drones have been reported delivering drugs and food to prison cells in France, and a scheme to deliver contraband into a Tennessee prison was halted by police intervention.

- **Stadiums**
  - *Facility Requirements*
    - Loose regulations on unmanned aircraft facilitate easy piloting of UAS around various sites such as office complexes, shopping centres, college campuses, film studios, theme parks, and more.
    - UAS presence poses risks including disruption, potential threats to public safety if a crash occurs in populated areas, and compromise of sensitive information like construction details, film set activities, or research data.
  - *Event Security Requirements*
    - Events such as rallies, concerts, sporting events, political conventions, protests, parades, and film shoots present unique challenges to public safety and property security.
    - Drones can be used for spying, harassment, illegal recording, or unintentional harm, particularly during high-profile or controversial gatherings.
    - Accidental crashes of UAS at events can result in injuries to attendees.
  - *Stadiums and Other Large-Scale Venues Requirements*
    - UAS can breach gated environments and evade ground security measures, making them ideal for unauthorised recording and transmission at major gatherings like football matches, concerts, and outdoor events.
    - Risks associated with UAS at such venues include distraction, potential bodily harm from crashes in crowded areas, and the possibility of dropping hazardous payloads.
  - DRO's solutions support event management staff and security personnel with both fixed installations and temporary deployment options, catering for short-term events were set up and pack down timing is critical. DroneShield integrates seamlessly into existing security systems for highly accurate detection, real-time alerts, and countermeasures for open-air sites like theme parks, sports stadiums, college campuses, and office parks.
    - DRO uses three-Dimensional Monitoring, which provides ground and aerial coverage inaccessible to human security, offering awareness, safety, privacy, data collection, legality, and mitigation through integration into existing security protocols, including grounding or redirecting UAS threats outside protected zones.
- **Corporations**
  - DRO provides robust protection against UAS activities that pose threats to cybersecurity, privacy, and property integrity.
  - It is trusted by corporations, organisations, and entities with heightened security needs for its advanced capabilities in detecting and alerting to UAS presence.
  - DRO technologies excel in rapidly distinguishing between ordinary environmental noise and potential threats, ensuring minimal false alarms and industry-leading detection performance.

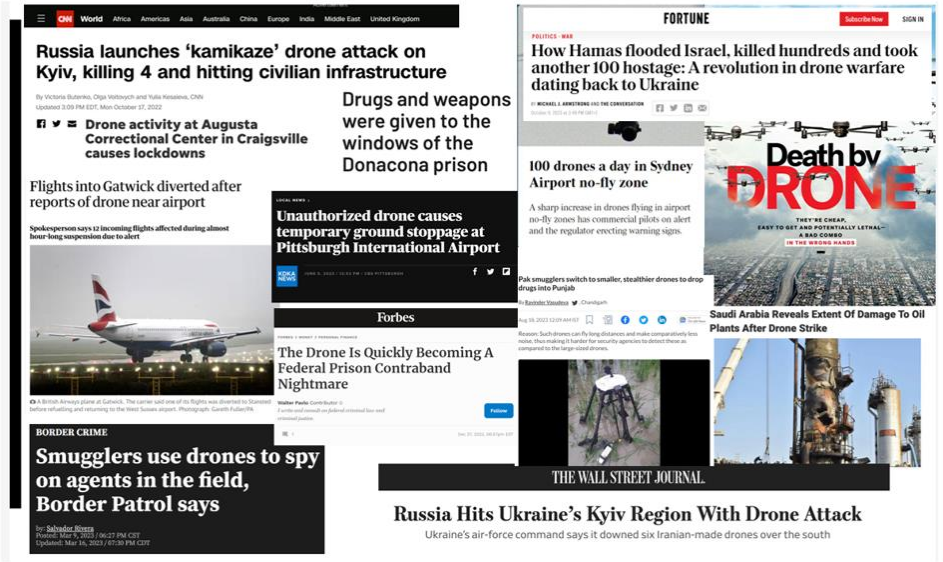
Project pipeline

DRO has 2024 project pipeline of $375m (as of 31 March 2024).

Country	2024 Pipeline
USA	$226m / 43 projects
United Kingdom	$22m / 3 projects
Europe	$111m / 19 projects
Australia	$4m / 5 projects
Other	$11m / 14 projects

- 13 pipeline projects (across 2024) of over $5m.
- Several projects expected to be awarded this quarter (Note: Government contracts may face delays).
- Largest 2024 pipeline project is $77m.

Market analysis



The recent surge in global conflicts and geopolitical tensions has led to an increase in drone-based offences. Today, drones and counterdrone systems are used in every conflict globally.

Although the idea of pilotless, radio-controlled aircraft traces back to World War One, it's the modern conflicts such as the war in Ukraine, that have seen a significant surge in their widespread use, and now serve a central and pervasive role on the battlefield.

In Ukraine, the use of smaller drones has evolved significantly. They reduce the time between target detection and destruction, improve reconnaissance capabilities, and lower risks to soldiers. Initially sporadic, their deployment is now highly organised, seamlessly integrated into Ukraine's armed forces. Additionally, drones can play a role in humanitarian efforts, aiding in documenting potential war crimes. Almost every fighting brigade boasts an assault drone company, with most units equipped with small reconnaissance drones.

Israel has leveraged drones that have been instrumental in border surveillance and targeted operations, furnishing Israel with a substantial advantage in intelligence gathering and threat mitigation. AI edge computing has been pivotal in augmenting the capabilities of these drones, facilitating swifter data processing and real-time decision-making. Israel says Iran launched over 300 drones and missiles, of which 99% were successfully intercepted.

China is a major force in military drone technology, unveiling a cost-effective jet engine with superior performance. Leveraging AI, their drones, used by the People's Liberation Army (PLA), enhance military capabilities, sparking concerns over potential targeting of American assets around Taiwan. China leads global drone exports, aiming to produce 100 high-end drones annually by 2025. President Xi Jinping champions drones' role in warfare, emphasising their strategic importance in potential conflicts.

Global dynamics fuelling market momentum

Rising global conflicts have led to heightened expenditures by Western Governments.

- The US Department of Defense proposed a 2024 budget exceeding US$840 billion, marking a record peacetime allocation.
- Germany is raising its defense spending to over 2% of GDP, up from 1.53% in 2021, and establishing a new EUR100 billion fund for military modernisation.
- Poland has announced a record 2023 Defense budget, amounting to 3% of GDP.
- Australia concluded its Defense Strategic Review (DSR), with plans to enhance allocations for asymmetric, high-tech, and grey zone warfare.

The next step after the Defense Strategic Review (DSR) in Australia is the release of the Integrated Investment Plan, focusing on growing sovereign defense capability, particularly in areas like counter-robotics, Electronic Warfare, and battlefield surveillance.

All figures in AUD unless stated otherwise

Record Defense and Security budgets, along with the use of drones in conflicts like Ukraine and the Hamas attack on Israel, have increased the demand for both drones and counterdrone systems.

Competitors

DRO is the only pure-play C-UAS publicly listed company globally.

DRO operates in a niche separate from major C-UAS firms. Large defensive prime contractors excel in managing extensive and costly projects, whereas smaller, more agile firms like DRO are adept at offering specialised services for rapidly advancing technologies.

Notably, major players often endorse DRO for specific client requirements and engage in collaborative efforts with them as well.

		ANDURIL	CACI	HIGH POINT	Dedrone / Aerial Armor	IXI ELECTRONIC WARFARE	MD	BLUEHALO	SRC	D-FEND
Origin	AU / US	US	US	US	DE / US	US	DK	US	US	IL
Integrator	✓	✓	✓	✓	✓	-	✓	-	-	-
DETECT										
Dismounted	✓	-	-	-	-	-	✓	-	-	-
Vehicle	✓	-	✓	-	-	-	✓	✓	✓	✓
Fixed Site	✓	✓	✓	-	✓	-	✓	✓	✓	✓
DEFEAT										
Dismounted	✓	-	-	✓	✓	✓	✓	-	-	-
Vehicle	✓	-	-	-	-	-	✓	✓	-	✓
Fixed Site	✓	✓	-	✓	-	-	✓	✓	✓	✓
COMMENTARY										
Platform information		✓ Integrator via its Lattice platform	• Substantially an integrator • Acquired AVT, a smaller integrator	• Roll up by Highlander Partners of Liteye, Black Sage and Radio Hill (in Feb 24) • Integrator/C2 supplier, and handheld disruptors	• Focus on law enforcement • Acquired Aerial Armor Jan 23	• Handheld Dronekiller jammer gun • Lacks a full product suite	• Lower performance vs DRO • European customer focus • Handheld defeat is on-the-body based, creating potential issues	• RF detect-and-defeat (via Citadel purchase) • LOCUST laser defeat • Acquired Verus Mar 23	• Offer an expensive, competing product to DroneSentry	• Protocol manipulation – similar legal restrictions to jamming, less reliability, no swarm protection

Company risks

1. **High operating costs**
    - The company's business operations require substantial investments in marketing, business development, personnel, and production facilities, posing a risk due to uncertainty in maintaining profitability amidst high expenditure and capital investment, potentially leading to revenue shortages, and working capital challenges.
2. **Competition:**
    - Operates in a competitive market alongside large multinational defense contractors with extensive resources and scale.
3. **Supply:**
    - Dependency on contract manufacturers for product delivery poses supply chain risks, where operational issues or failures may cause delays, impacting the company's ability to meet customer demands.
4. **Government contracts:**
    - A portion of the company's revenue relies on contracts with US and foreign governments, introducing inherent risks associated with governmental contracts, such as termination, modifications due to changing requirements or budget constraints, and potential intellectual property disputes.
5. **Foreign exchange:**
    - Operating in multiple jurisdictions exposes the company to foreign exchange risk stemming from fluctuations in currency exchange rates.
6. **Technology:**
    - Rapid tech advancements and competition pose risks in the company's tech-driven market. Continuous investment in R&D is vital for competitiveness, but uncertainties exist in identifying new tech and facing obsolescence from competitors.

Key Management

Oleg Vornik

CEO & Managing Director

Oleg has overseen the rapid expansion and global presence of DRO, from IPO to widespread deployment across over 100 countries, fostering organic deep technology development and mass deployment in homeland security, intelligence, and military sectors.

Matt McCrann

CEO, DroneShield (USA)

Matt, a seasoned business development executive, has built and led business units delivering innovative technology to global government and enterprise end users, joining DRO in 2019 to spearhead the growth and scaling of its U.S. organisation.

Paul Cenoz

General Counsel & Joint Company Secretary

Paul, admitted to practice law in California and New South Wales, joined DRO in 2023 as Legal Counsel, leveraging his experience in multi-jurisdictional matters with technology businesses, previously serving as COO and General Counsel at OSINT Combine in Sydney and Morning Consult in Washington, DC, and gaining legal experience at MurdockCheng Legal Practice and Cox Wootton Lerner, with bachelor's degrees from the University of Southern California and Juris Doctor degrees from Monash University and American University Washington College of Law.

Carla Balanco

CFO & Joint Company Secretary

Carla, a member of Chartered Accountants Australia & New Zealand (CA ANZ) with Honours in Accounting from the University of Johannesburg and the University of South Africa, transitioned from roles in audit at firms like Crowe Horwath and HLB Mann Judd to spearheading financial management at DRO since 2018, where she serves as CFO and Company Secretary, earning recognition as a finalist in the 2021 ADM's Women in Defence Awards and 2020 Australian Defence Industry Awards.

Angus Bean

Chief Technology Officer

Angus is a multifaceted professional with expertise spanning mechanical hardware, electronics, software, digital interface, and technology, leveraging his extensive knowledge in product development, team leadership, and technical innovation strategy, notably contributing to DRO's technology team since early 2016 and garnering recognition through numerous Australian and international awards in fields such as innovation, consumer electronics, defense, and cyber security.

Carl Norman

Vice President, Embedded Systems

Carl boasts over 25 years of expertise in electronic product design, development, manufacturing, and project management, with a focus on embedded RF products across ISM band RF, analogue, and high-speed digital design, coupled with hands-on project management, delivering solutions to the Communication, Security, and Industrial sectors globally, underpinned by his Electronics Engineering studies at TAFE NSW.

Lawrence Marychurch

Vice President, Design

Lawrence, an experienced Industrial Designer at DRO since 2018, oversees product development, manufacturing, and quality assurance, collaborating with engineers to deliver innovative counter-drone solutions, managing a global supplier network, and running DRO's Sydney manufacturing facility.

Tom Branstetter

Director of Business Development (USA)

Tom, a former U.S. Navy SEAL and high-threat protective officer for the government, is now the Director of Business Development at DroneShield's U.S. operations. Focused on expanding growth in the DoD and federal agencies, he leads initiatives in new business development, brand expansion, team leadership, and partnership management, leveraging his Bachelor of Arts degree in Entrepreneurship. He resides with his family in Northern Virginia.

Red McClintock

Director

Red, a Business Development Manager with a military background, served 23 years in the Royal Australian Navy, including operational deployments to Iraq and Afghanistan and evaluation of various capabilities across different warships, emphasising frontline operators' needs in system development.

Raffael Blattner

Operations Manager

Raffael, an Operations Manager at DRO since 2023, brings over 15 years of experience in Manufacturing and Operations Management, with qualifications in Engineering and Project Management from a Swiss Advanced Business School, having previously held management roles in deep-tech start-ups and corporate organisations, specialising in automotive, telecommunications, and industrial sectors, and adept at optimising operational processes in rapid-growth environments.

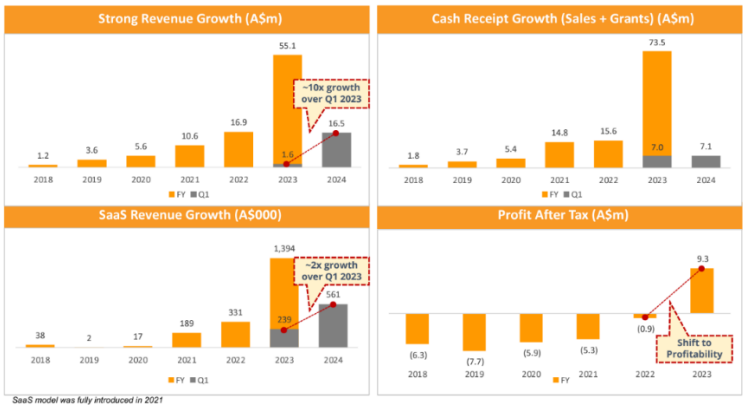
Financials

Results for announcement to the market				
	Up/ Down	% Movement		2023 $
Revenue from continuing activities	Up	226%	to	55,078,258
Profit from continuing activities after tax attributable to members	Up	1083%	to	9,334,387
Net profit attributable to members	Up	1083%	to	9,334,387
Dividends: No dividends are being proposed or have been paid	Nil	Nil		Nil

In 2023, DRO achieved its first profitable and cashflow positive year, laying a robust foundation for sustained growth.

- Record $33 million order received in July
- 2-year R&D contract worth $9.9 million
- Strong sales pipeline exceeding $400 million
- Cash receipts from sales and grants amounted to $73.5 million, marking a 5x growth from 2022, setting a record
- Maintained a robust bank and term deposit balance of approximately $58 million as of December 31, 2023
- The United States was the largest contributor to revenue in FY23, accounting for 68%, followed by Australia at 23%

All figures in AUD unless stated otherwise



Capital raise

DRO successfully completed an upsized underwritten $100 million placement, originally set at $70 million, due to strong support from existing and new domestic and international investors. This placement involves approximately 125.7 million new fully paid ordinary shares priced at A$0.80 per share.

- The first tranche of approximately $70 million, involving 87.8 million shares, is fully committed, and will be executed under existing placement capacity.
- The second tranche, comprising approximately $30 million and 37.9 million shares.

In addition, the company successfully completed its Share Purchase Plan (SPP) announced on April 18, 2024, with further overwhelming support from existing shareholders. Despite receiving applications totalling $40 million, exceeding the $15 million cap set by the Company, DroneShield will only accept approximately $15 million in accordance with SPP terms, refunding the excess to applicants.

Overall, the Placement and SPP gross proceeds amount to $115 million.

Capital raise use of funds
Build-up of inventory to reinforce a robust pipeline of high-quality customer opportunities, including: • Handheld detection systems (RfPatrol Mk2) • Handheld defeat systems (DroneGun Mk4 and DroneGun Tactical) • On-The-Move systems (DroneSentry-X Mk2) • Fixed site systems (RfOne, DroneCannon: components of DroneSentry)
Investment into Artificial Intelligence (AI) and Machine Learning (ML): • Expanding the engineering team to expedite the development of in-house AI and ML engines, enhancing detection, identification, and response to drone threats.
Working Capital and Offer Costs

Projections

- The revenue projection is derived from a ratio applied to the project pipeline of $375 million in 2024 and $375 million + $145 million in 2025, followed by a growth rate applied to that.
- Implemented the $100m Placement and $15m SPP gross proceeds.
- Forecasting no debt.
- Assuming a risk-free rate of 4.5%.
- Utilising a corporate tax rate of 25%.

Looking ahead

In the future, DRO intends to develop firearms necessitating Software as a Service (SaaS) updates, thereby mandating all DRO products to incorporate built-in SaaS updating mechanisms.

5-year target:

- $300-$500m annual revenue
- Expect 50% (SaaS + R&D) and 50% (hardware) revenue

Profit and Loss	CY22A	CY23A	CY24F	CY25F	CY26F
Revenue	16.9	55.1	76.5	106.1	127.3
EBITDA	(2.0)	3.7	21.4	29.8	35.8
Dep'n and amort'n	0.9	1.5	1.7	1.8	1.9
EBIT	(2.9)	2.2	19.7	28.0	33.9
NPAT	(0.9)	9.3	16.1	22.3	26.8

Balance Sheet	CY22A	CY23A	CY24F	CY25F	CY26F
Cash	10.1	56.7	59.5	62.5	65.6
Receivables	8.3	8.9	12.4	17.2	20.7
Inventory	3.7	18.6	25.8	35.8	42.9
Intangibles	0.0	0.0	0.0	0.0	0.0
Land & PPE	2.4	4.0	4.3	4.6	5.0
Investments	0.1	1.2	1.2	1.2	1.3
Other Assets	0.5	7.6	124.1	140.5	161.3
Total Assets	**25.2**	**97.1**	**227.4**	**262.0**	**296.9**
Payables	0.6	3.5	4.8	6.7	7.4
Debt	0.1	0.0	0.0	0.0	0.0
Other Liabilities	5.6	19.1	26.9	37.4	44.8
Total Liabilities	**6.2**	**22.5**	**31.8**	**44.1**	**52.2**
Paid up Equity	40.5	80.4	185.4	185.4	185.4
Retained Earnings	(26.6)	(11.3)	4.7	27.0	53.8
Reserves	5.1	5.5	5.5	5.5	5.5
Total Equity	**19.0**	**74.5**	**195.6**	**217.9**	**244.7**

Cash Flow Statement	CY22A	CY23A	CY24F	CY25F	CY26F
Net cash from operating activities	**(1.8)**	**9.5**	**16.5**	**21.8**	**26.5**
Change in investments	0.0	(1.1)	(0.0)	(0.0)	(0.0)
Change in PP&E excl. dep	(1.4)	(1.6)	(0.3)	(0.4)	(0.4)
Other investing cash flows	0.6	0.7	0.0	0.0	0.0
Net cash from investing activities	**(0.8)**	**(2.0)**	**(0.4)**	**(0.4)**	**(0.4)**
Changes in borrowings	0.0	(0.1)	0.0	(0.1)	0.0
Changes in equity	3.6	39.8	105.0	0.0	0.0
Distributions paid	0.0	0.0	0.0	0.0	0.0
Other finance cash flows	(0.5)	(0.7)	0.0	0.0	0.0
Net cash from financing activities	**3.1**	**39.1**	**105.0**	**(0.1)**	**0.0**

All figures in AUD unless stated otherwise

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