

Zen Technologies



A niche defense play!

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Zen Technologies: A niche defense play



A niche defense play!

- ❖ **A niche player with strong competitive positioning:** Zen Technologies (ZEN) is a niche player in the defense simulator-based training market. The company has also forayed into the counter-drone market. The addressable markets for simulators and counter-drones in India are estimated at ~INR140b and INR120b, respectively, over the next five years. The company commands a significant market share in both of these segments, with just 2-3 players in the defense simulator market and 5-6 players in the counter-drone market.
- ❖ **Healthy financials backed by a robust order book:** ZEN has established a strong vendor base for simulators and has achieved backward integration for counter-drone solutions, resulting in strong margins and a high RoCE. The company is also planning to foray into newer defense segments. With a healthy order book of INR14b and a likely inflow CAGR of 37% over the next three years, we expect its revenue/EBITDA/PAT to clock a CAGR of 63%/57%/56% over FY24-27.
- ❖ **Valuation and View:** We value the stock at 40x Jun'26E earnings. We initiate coverage on the stock with a BUY rating and a TP of INR1,775. We expect the company to: 1) grow at a much faster pace than the industry, 2) have a very strong margin, and 3) expand its capabilities across other defense segments.

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Financials and Valuations

Zen Technologies

BSE SENSEX
80,717

S&P CNX
24,613



Bloomberg	ZEN IN
Equity Shares (m)	84
M.Cap.(INRb)/(USDb)	113.7 / 1.4
52-Week Range (INR)	1487 / 575
1, 6, 12 Rel. Per (%)	16/63/103
12M Avg Val (INR M)	395
Free float (%)	44.9

Financials & Valuations (INR b)

Y/E Mar	2025E	2026E	2027E
Net sales	9.1	13.2	18.6
EBITDA	3.4	4.8	6.8
Adj. PAT	2.4	3.4	4.8
EPS (INR)	28.1	40.1	57.1
EPS Gr. (%)	85.9	42.9	42.4
BV/Sh. (INR)	82.0	122.1	179.1

Ratios

RoE (%)	41.3	39.3	37.9
RoCE (%)	41.6	39.5	38.1

Valuations

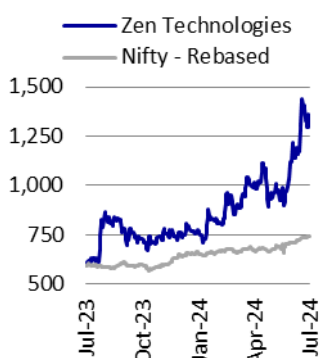
P/E (x)	48.5	33.9	23.8
P/BV (x)	16.6	11.1	7.6
EV/EBITDA (x)	33.5	23.1	16.1
Div. Yield (%)	-	-	-

Shareholding pattern (%)

As On	Jun-24	Mar-24	Jun-23
Promoter	55.1	55.1	57.5
DII	3.4	3.3	0.2
FII	3.6	4.5	4.2
Others	37.9	37.2	38.1

FII Includes depository receipts

Stock's performance (one-year)



CMP: INR1,360

TP: INR1,775 (+31%)

Buy

A niche defense play!

- A niche player with strong competitive positioning:** Zen Technologies (ZEN) is a niche player in the defense simulator-based training market. The company has also forayed into the counter-drone market. The addressable markets for simulators and counter-drones in India are estimated at ~INR140b and INR120b, respectively, over the next five years. The company commands a significant market share in both of these segments, with just 2-3 players in the defense simulator market and 5-6 players in the counter-drone market.
- Healthy financials backed by a robust order book:** ZEN has established a strong vendor base for simulators and has achieved backward integration for counter-drone solutions, resulting in strong margins and a high RoCE. The company is also planning to foray into newer defense segments. With a healthy order book of INR14b and a likely inflow CAGR of 37% over the next three years, we expect its revenue/EBITDA/PAT to clock a CAGR of 63%/57%/56% over FY24-27.
- Valuation and View:** We value the stock at 40x Jun'26E earnings. We initiate coverage on the stock with a BUY rating and a TP of INR1,775. We expect the company to: 1) grow at a much faster pace than the industry, 2) have a very strong margin, and 3) expand its capabilities across other defense segments.

Long-term industry growth drivers in place

The Ministry of Defence (MoD) had rolled out a comprehensive simulation framework aimed at enhancing the utilization of simulators by the Armed Forces and Coast Guard, with a view to achieving cost-effective, efficient, and smart training. As per industry estimates, the Indian simulator market is likely to grow to USD1.7b by FY29 from USD1b, at a 10% CAGR driven by the government's increased focus on virtual training. Additionally, there is an increased focus on the Agnipath Pravesh Yojana (APY), which would also drive demand for faster training of new recruits. Further, the counter-drone market is also expected to grow to USD1.4b by FY29, driven by the requirement to install anti-drone systems across the borders. ZEN has a strong market share in both of these segments. We expect ZEN to benefit from its wide product portfolio in simulators, counter-drone, and new areas over the next five years.

Well-positioned simulator portfolio to capitalize on opportunities

ZEN has a portfolio of over 40 products designed and developed indigenously, ranging from live fire, live instrumented, virtual, and constructive training systems for individual and collective training, as well as counter-drone solutions. Its extensive product portfolio is also complemented by a services division that provides after-sales service, warranty, and AMC, et al. ZEN also boasts 150+ filed patents, with nearly 70 already granted. Notably, the company is self-reliant and does not rely on imports for its supply chain.

Fully backward integrated counter-drone product

ZEN has an advantage of having a fully backward integrated counter-drone portfolio. The company has in-house manufacturing of jammer and detector. Radar is developed by its subsidiary UTS. ZEN also has a 51% share in AI Turing for EO camera, so the company is completely integrated in the counter drone system. It also has capabilities of both soft kill and hard kill and hence is ahead of most of its competitors.

Strong competitive advantage

ZEN has a diverse customer base spanning over 100 government customers. The company also boasts customer loyalty, with 90% repeat orders. In the simulator market, ZEN secured nearly 11 out of 12 contracts tendered out during FY24, capturing more than 80% market share. In the anti-drone market, ZEN competes with 5-6 players but it has an edge over others in terms of backward integration. The company generates healthy EBITDA margin due to its strong competitive positioning.

Current order book provides healthy revenue visibility

In FY24, the company secured orders worth ~INR13.6b, taking the total order book to INR14b diversified across both simulators and anti-drones. Additionally, there is a healthy order pipeline for both simulators and anti-drone systems, ensuring revenue visibility for the next few years. We anticipate order inflows and revenue to report a CAGR of 37% and 63% over FY24-27, respectively.

Asset-light model can potentially generate strong RoE and RoCE

The company boasts an asset-light business model that does not require high capex. Instead, ZEN invests in R&D to build robust Intellectual Property Rights (IPRs). The manufacturing of simulators is outsourced, which helps generate a healthy fixed asset turnover ratio. Material costs account for 20-25% of sales, resulting in a significantly higher gross margin. The asset-light business model also helps to generate an RoCE of 30-40%.

AMC business will grow in line with product business over few years

In FY24, the company generated 8% of its overall revenue from the AMC business. The lifecycle of a simulator is 15 years, creating a lifetime revenue potential of 120% of product sales. With the increase in the installed base of simulators, AMC revenues will also grow simultaneously.

Aiming to increase exports from the current levels

The company is focused on expanding its geographical footprint by capitalizing on opportunities in both anti-drone systems and simulators. Currently, it has a presence in markets such as Nigeria, Qatar, Malaysia, the UAE, Kenya, and Egypt. As of FY24, the share of exports stood at 19%, and ZEN aims to increase it to 35% by FY28. This strategy will boost margins as exports are more profitable for ZEN.

Financial outlook

We expect a revenue/EBITDA/PAT CAGR of 63%/57%/56% during FY24-27. This growth will be led by: 1) order inflow growth of 37%, due to a strong pipeline across simulators and anti-drones, 2) EBITDA margin of 37%/36.5%/36.5% for FY25/FY26/FY27, and 3) enhanced control over working capital due to improved collections. With a substantial revenue growth, healthy margins, and stable working capital, we expect ZEN's RoE and RoCE to improve to 38% and 38% by FY27, respectively.

Key risks and concerns

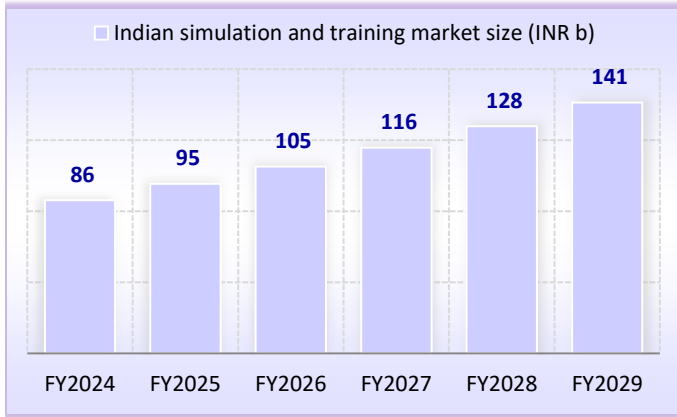
Any slowdown in procurement from the defense industry, especially for simulators, can expose the company to the risk of reduced order inflows and hinder its growth. ZEN is also exposed to foreign currency risks for its export revenue. High working capital can also pose risks to cash flows, as historically, ZEN's working capital has remained high due to issues related to high debtors and high inventories. This is likely to come down due to improved collections and lower inventory, as per the management. However, any delays in the same can affect cash flows for FY25/26.

Valuation and view

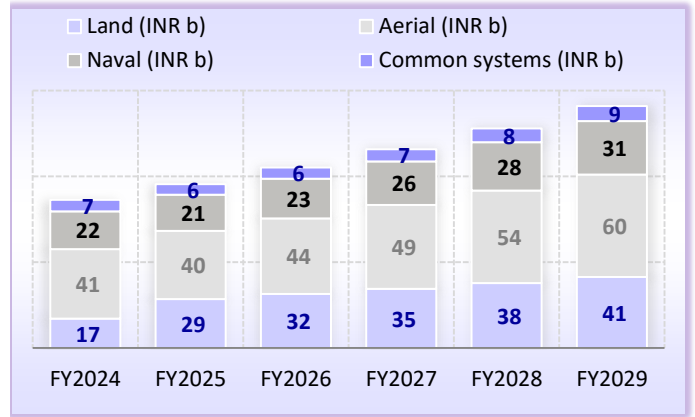
We value the stock at 40x Jun'26E earnings. **We initiate coverage on the stock with a BUY rating and a TP of INR1,775.** We expect the company to: 1) grow at a much faster pace than the industry, 2) have a very strong margin, and 3) expand its capabilities across other defense segments.

STORY IN CHARTS

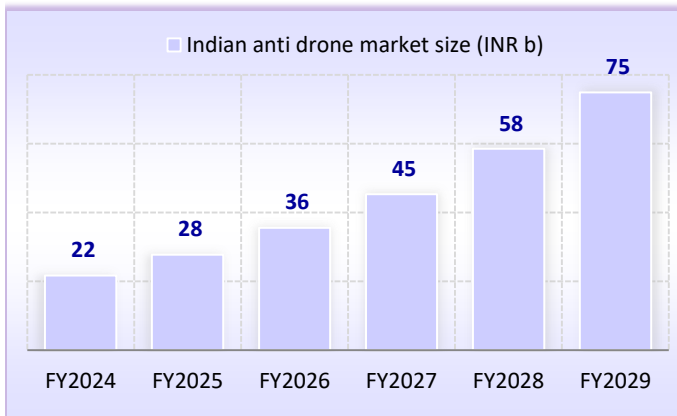
Indian simulation and training market is expected to be around INR140b by FY29



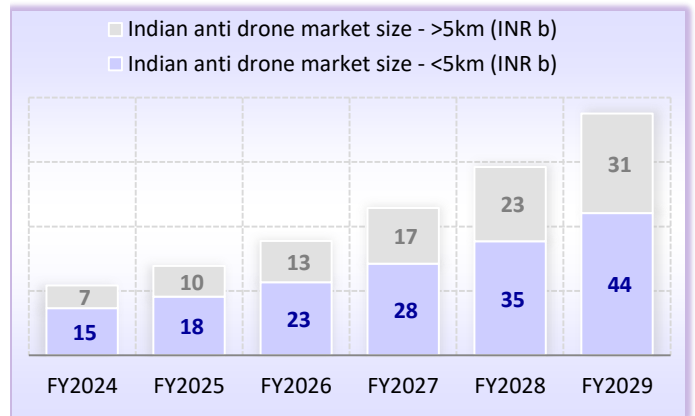
Simulation market opportunity across platforms



Indian counter-drone market is expected to be around INR75b by FY29



Indian counter-drone market across ranges



Positioning of key players in the simulation-based training market

Value chain positioning for companies in military simulation

Company	R&D	Manufacturing	System integration	Marketing & Sales	After-sales support	Product upgrade	Simulator training as service
ZEN	✓	✓	✓	✓	✓	✓	✓
BAE	✓	✓	✓	✓	✓	✓	✓
BEL	✓	✓	✓	✓	✓		
Tecknotrove Systems			✓	✓	✓	✓	
Thales	✓	✓	✓	✓	✓	✓	✓
Bohemia Interactive	✓		✓	✓	✓	✓	✓
CAE	✓	✓	✓	✓	✓	✓	✓
Cubic	✓	✓	✓	✓	✓	✓	✓
Lockheed Martin	✓	✓	✓	✓	✓	✓	✓
Northrop Grumman	✓		✓	✓	✓	✓	✓
Rheinmettal	✓	✓	✓	✓	✓	✓	□
SAAB	✓	✓	✓	✓	✓	✓	✓

Competition in domestic simulator market
Competition in international simulator market

Source: Industry sources, Company, MOFSL

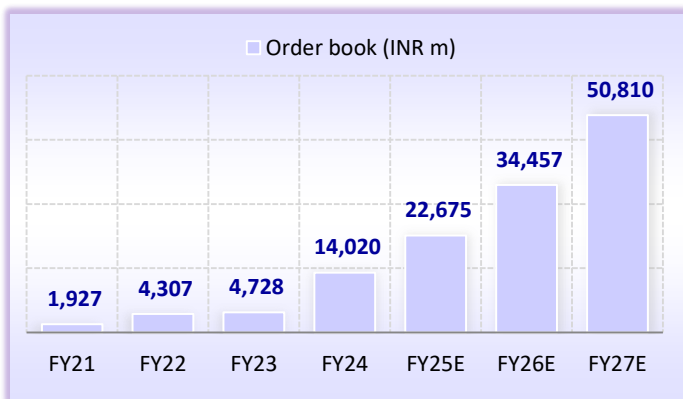
Positioning of key players in the counter-drone market

Company	R&D	Manufacturing	System integration	Marketing & Sales	After-sales support	Product upgrade
ZEN	✓	✓	✓	✓	✓	✓
Astra microwave		✓	✓			
Adani A&D			✓	✓	✓	✓
BEL		✓	✓	✓	✓	✓
Gurutvaa Systems	✓		✓	✓	✓	
M2K				✓	✓	
Thales	✓	✓	✓	✓	✓	✓

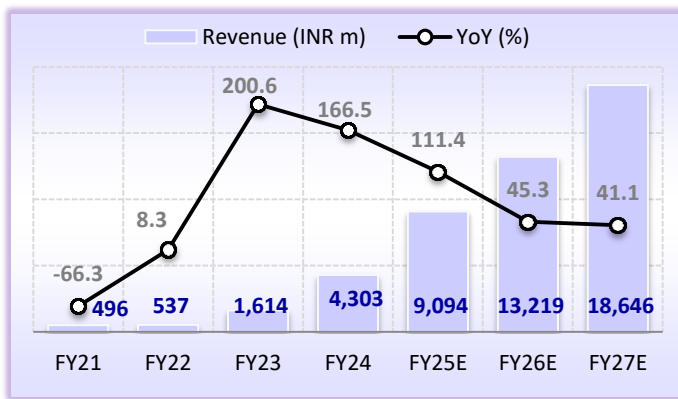
Competition in the domestic market
Competition in the international market

Source: Industry sources, Company, MOFSL

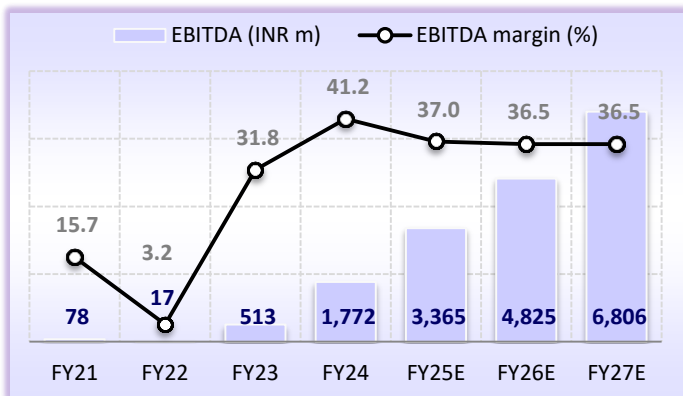
Order book to be buoyant over FY24-27E



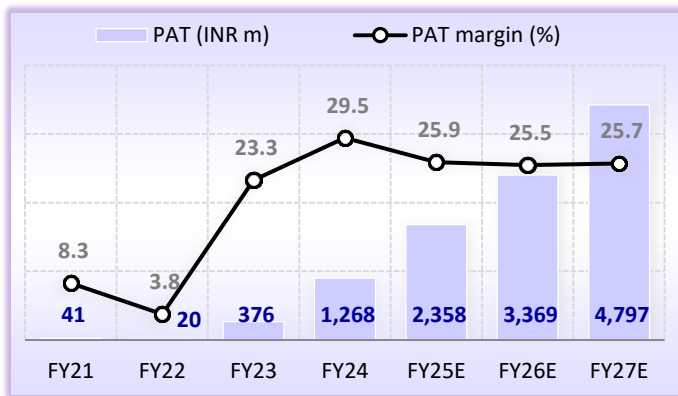
Revenue to clock in 63% CAGR over FY24-26E



EBITDA margin to remain at healthy levels



We expect 56% PAT CAGR over FY24-FY27E



Simulator market: Long-term growth drivers in place

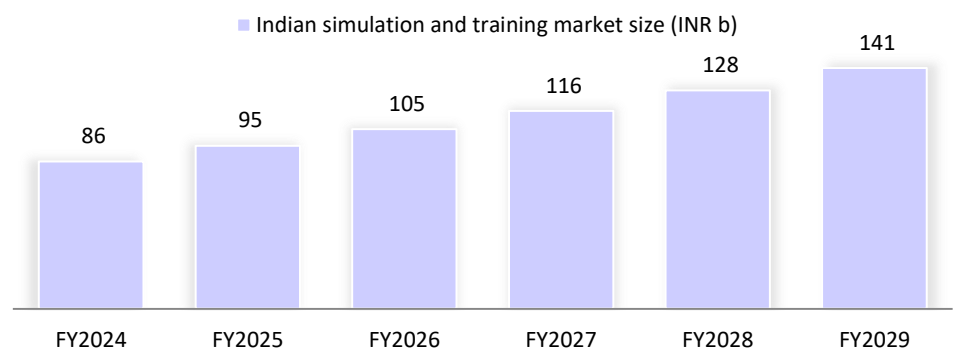
The Indian government’s defense budget as a percentage of GDP has hovered in the range of 1.5-1.6% over the last few years, and capital outlay has formed a third of the total defense budget. The capital outlay for defense has reported a CAGR of 11% over FY19-24. Despite a projected capex outlay growth of 10% over the next few years, we expect select segments in defense electronics and training to grow at a faster pace due to small base and increased focus on these segments.

Simulator-based training

Domestic training and simulators market to grow to INR140b by FY29

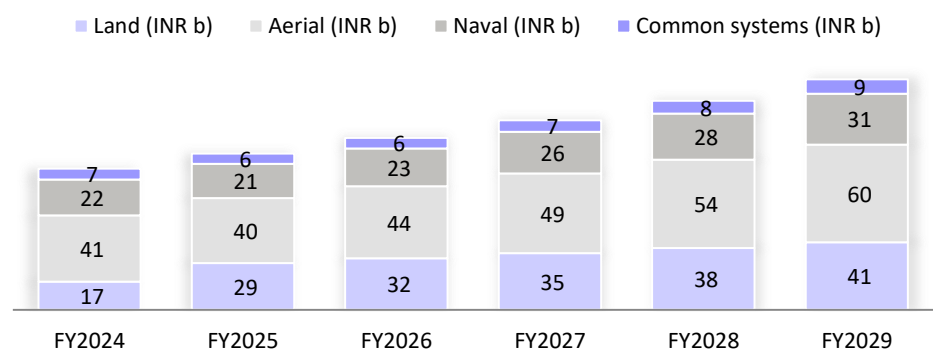
The Indian simulators market is expected to grow to USD1.7b from USD1.0b by FY29 at a 10% CAGR. This growth will be driven by the government’s focus on increased usage of simulators in training. Within Indian simulator market, military simulation market which is land based is expected to be cumulatively INR150-180b over next 5 years as per industry estimates. The Indian military simulations market consists of four segments: platform, application, component, and immersive defense. The key players operating in the domestic military simulation & training market are ZEN, BEL, and CAE India. Navy and Airforce simulator market is yet to be captured fully by domestic players.

Exhibit 1: Indian simulation and training market is expected to be around INR140b by FY29



Source: Industry, MOFSL, Company

Exhibit 2: Simulation market opportunity across platforms



Source: Industry, MoD, Company, MOFSL

Growth in the simulator-based training market in India is driven mainly by these initiatives:

Framework for utilization of simulators

The Ministry of Defence (MoD) has promulgated the framework for enhanced and synergized utilization of training simulators by the three services – Army, Navy and Air force and the Indian Coast Guard (ICG). The vision is to transform to simulation-based training across all military domains for combatants, leaders, maintainers, administrators, life science experts, procurement, and financial agencies and thus achieve cost-effective, efficient, safe, fast-paced, and smart training. The framework places emphasis on indigenous design & development as well as outsourcing of operation and maintenance of simulators to the Indian companies. The framework has the following goals and objectives:

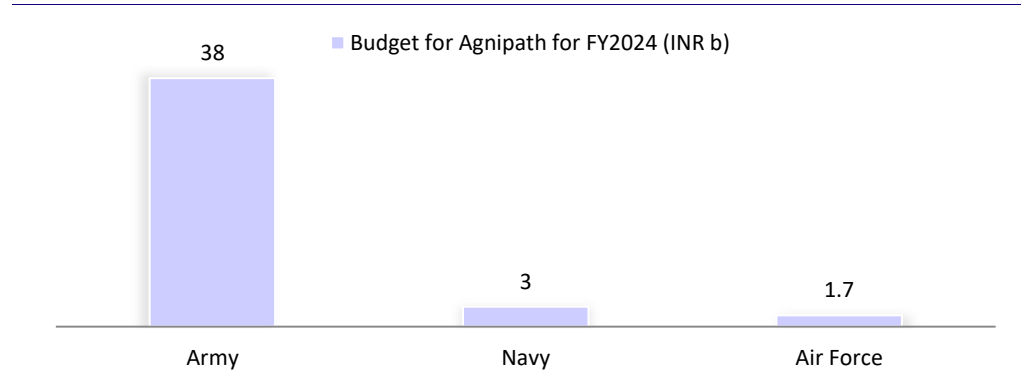
- To reduce live equipment utilization
- To ensure capability plans for phased induction of simulators
- To duly factor in the requirement of simulators at the planning stage of procurement
- To coordinate among various agencies of the government and consider the combined requirements of simulators during procurement.

Agnipath Pravesh Yojana (APY)

The recently announced APY provides opportunities for the youth of the country to serve in the Armed Forces as Agniveers for four years. Since the tenure of the Agniveers is very short, there is a fundamental need to train them to an acceptable level in a much faster time compared to the duration spent by the former recruits. This is where the requirements for simulators will start increasing.

The government allocated 1.1% of the Indian defense budget to defense training and simulation in FY24 for APY and within this Army, Navy and Air Force spent 1.11%, 0.30%, and 0.14% of the total budget allocated in 2023-24, respectively. All entities put together, the amount allocated in the Union Budget last year was INR42.6b for defense training and simulation.

Exhibit 3: Budget for APY during FY24

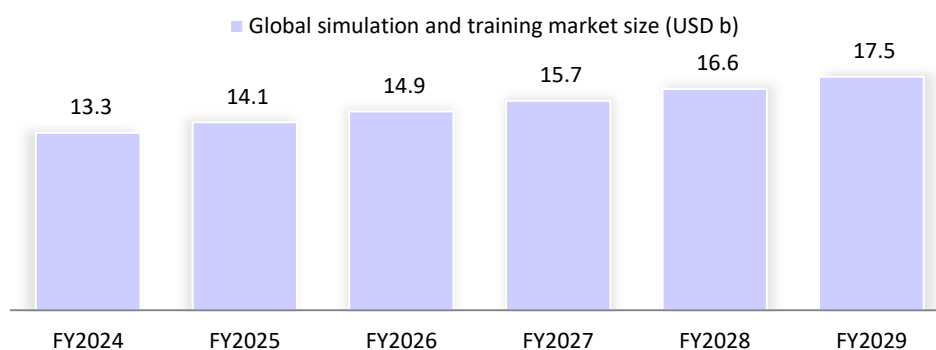


Source: MoD, Industry, Company, MOFSL

Global military simulation and training market

According to industry estimates, the global military simulation and training market is projected to grow at a 6.2% CAGR during 2020-30 to reach an estimated market value of USD20.6b by 2030 from USD11.5b in 2022. This market is expected to provide healthy opportunities for players such as ZEN, which have the required simulators in their portfolio and are looking to expand across international markets.

Exhibit 4: Global simulation-based training market is likely to post 6% CAGR over the next five years



Source: Industry, Company, MOFSL

Positioning of key players in the simulator market

Competition in India is limited to companies meeting the indigenous requirement criteria by the MoD. ZEN, however, could face strong competition from BAE, CAE, Cubic, Lockheed Martin, Northrop Grumman, SAAB, etc. in the global market. Most of these companies have strong geographical footprint and capabilities along the complete value chain.

Exhibit 5: Positioning of key players in the simulation-based training market

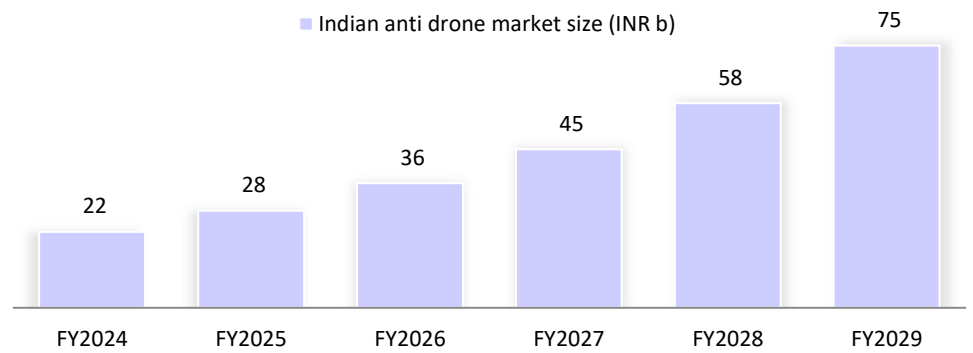
Value chain positioning for companies in military simulation							
Company	R&D	Manufacturing	System integration	Marketing & Sales	After-sales support	Product upgrade	Simulator training as service
ZEN	✓	✓	✓	✓	✓	✓	✓
BAE	✓	✓	✓	✓	✓	✓	✓
BEL	✓	✓	✓	✓	✓	✓	
Tecknotrove Systems			✓	✓	✓	✓	
Thales	✓	✓	✓	✓	✓	✓	✓
Bohemia Interactive	✓		✓	✓	✓	✓	✓
CAE	✓	✓	✓	✓	✓	✓	✓
Cubic	✓	✓	✓	✓	✓	✓	✓
Lockheed Martin	✓	✓	✓	✓	✓	✓	✓
Northrop Grumman	✓		✓	✓	✓	✓	✓
Rheinmettal	✓	✓	✓	✓	✓	✓	☐
SAAB	✓	✓	✓	✓	✓	✓	✓
	Competition in domestic simulator market						
	Competition in international simulator market						

Source: Industry sources, Company, MOFSL

Counter-drone market: Growing at a fast rate

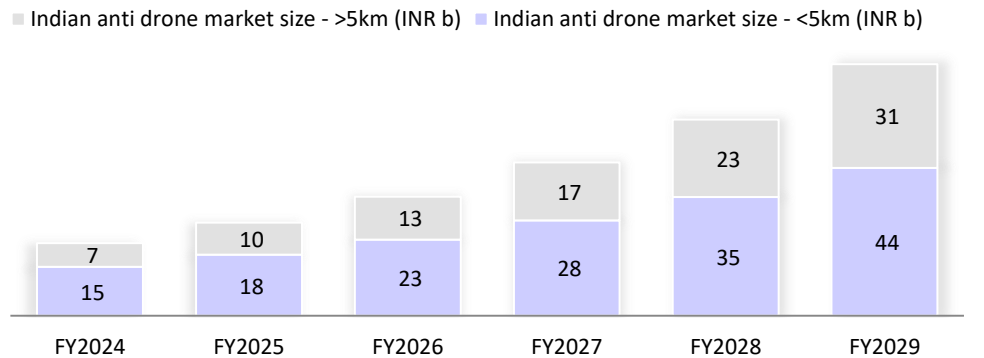
As per industry estimates, the Indian counter-drone market is likely to grow at a much faster CAGR of 28% over next five years and to be driven by increased requirements of counter drone systems to counter aerial attacks. Conservatively, the addressable market for counter-drone systems is estimated at INR120b over the next five years based on a requirement of nearly 1,200 counter-drone systems, each costing about INR80-150m. This will result in a yearly opportunity of nearly INR24b over the next five years. Within this market, the TAM for anti-drones for more than 5km range is growing faster than that of anti-drones for less than 5km. The technology is continuously evolving in this space to improve the range. The life of a counter-drone system is nearly 10 years and it requires software upgradation regularly.

Exhibit 6: Indian counter-drone market is expected to be around INR75b by FY29



Source: Industry, Company, MOFSL

Exhibit 7: Indian counter-drone market across ranges



Source: Industry, Company, MOFSL

Positioning of players in the counter-drone market

The Indian companies such as BEL, Adani A&D, GreneRobotics, Gurutvaa, Astra Microwave, Big Bang Boom Solutions, and M2K Technologies could give strong competition to ZEN in the domestic market. Players like Thales, too, with their manufacturing and R&D capabilities in India, can be a potential competitor in the domestic market. Along with this, international players are partnering with Indian companies to meet India’s indigenous component requirement for defense procurements. For instance, DroneShield has partnered with M2K Technologies to bring advanced counter-drone systems to the Indian market. However, ZEN has an edge over others due to its backward integration across all components of counter drone.

Exhibit 8: Positioning of key players in the counter-drone market

Company	R&D	Manufacturing	System integration	Marketing & Sales	After-sales support	Product upgrade
ZEN	✓	✓	✓	✓	✓	✓
Astra microwave		✓	✓			
Adani A&D			✓	✓	✓	✓
BEL		✓	✓	✓	✓	✓
Gurutvaa Systems	✓		✓	✓	✓	
M2K				✓	✓	
Thales	✓	✓	✓	✓	✓	✓
	Competition in the domestic market					
	Competition in the international market					

Source: Industry sources, Company, MOFSL

Key items of simulators and anti-drones as part of the import embargo list**Exhibit 9: Potential for indigenization of key items of simulators and anti-drone across various import embargo lists**

Lists	Category	Item
First indigenization list	Simulators	❖ Battalion support Weapons Simulators, Simulators for A Vehicles/ B Vehicles, Tank Simulators, Force on force Live Tactical Simulators / infantry, Simulators for Towed and Self-propelled guns of air defense, Simulators for Correction of Fire by Observers, Container-based Simulators for Live Fire Training
Second indigenization list	Simulators	❖ Multi Station Ship Handling Simulator (MSSHS), L 70 Integrated Air Defence Combat Simulator
Third indigenization list	Anti-drone	❖ Counter Drone System - Hard kill and soft kill, handheld counter drone system
Fourth indigenization list	Simulators	❖ Full Motion Simulator (FMS) for Light Combat Aircraft, small arm weapon training simulator for Navy, Next generation war gaming simulator for Naval applications

Source: Company, MOFSL

Upcoming AoNs in defense simulators where key players can participate**Exhibit 10: Upcoming AoNs for the simulator market**

Division	Product
Army - DG Mechanical Forces	❖ TacSim
Army - DG Infantry	❖ Combat Weapon Training Simulator
Army - DG Air Defence	❖ Firing Range Automated Simulator
DG Supply & Transport	❖ TacSim , Universal driving simulator, ❖ 2.5T driving and Armored vehicle driving simulators
Navy	❖ Combat Training Center in Chilka

Source: PIB, Company, MOFSL

Defence electronics market outlook

The defence electronics market was cumulatively worth ~USD8.1b over 2016-20 and reported a CAGR of 4.5% during the period. This market stood at USD1.9b in 2021 and is expected to grow to USD7b by 2030 at a CAGR of 15.7% during 2020-30.

The Indian defence electronics segment is likely to witness large-scale indigenization efforts over the next decade, leading to improved manufacturing and quality standards. At present, over 60% of the electronic components used are supplied by foreign OEMs. As indigenization efforts gather steam, future procurement will experience a large portion of defense electronics sourced locally, and as such, platform recapitalization programs across all three forces, such as new combat aircraft acquisition, submarine building, and T-72 replacement, will be the key contributors to the future market valuation of this product segment.

Exhibit 11: Positioning of key players in the defense electronics market

Key Players	Radars	Missile and telemetry	Electronic warfare	Avionics	Counter drone systems	Satellite and space	Hydro/meteorology	Others*
Astra Microwave Product Ltd.	✓	✓	✓		✓	✓	✓	✓
Data Patterns (India) Ltd.	✓	✓	✓	✓		✓	✓	✓
Bharat Electronics Ltd.	✓	✓	✓	✓	✓	✓	✓	✓
Centrum Electronics Ltd.	✓	✓	✓	✓		✓		✓
Alpha Design Technologies Private Ltd.	✓		✓	✓		✓		✓
Tata Advanced Systems Ltd.	✓	✓	✓	✓		✓		✓
DCX Systems Ltd.	✓	✓	✓					✓
Paras Defence and Space Technologies Ltd.		✓	✓	✓				✓

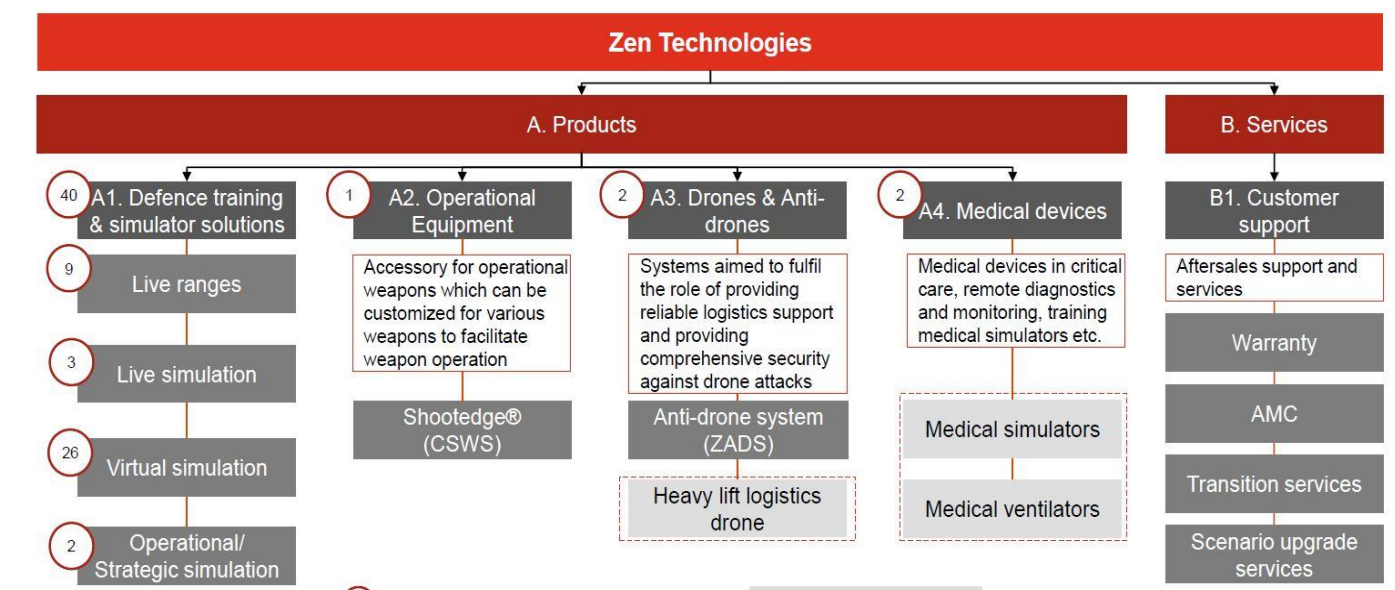
Source: Industry, Company, MOFSL

Zen Technologies: A niche defense play

Wide product portfolio in simulators and counter-drone

Established in 1993, ZEN designs, develops and manufactures state-of-the-art combat training solutions for the training of defense and security forces worldwide. It is a leader in providing counter-drone solutions. The company is headquartered in Hyderabad, with offices in India, UAE and USA. ZEN has a portfolio of over 40 products designed and developed indigenously, ranging from live fire, live instrumented, virtual and constructive training systems for individual and collective training and counter-drone solutions. ZEN’s wide product portfolio is also supported by its robust aftersales service division.

Exhibit 12: Wide product portfolio of ZEN



Source: Company, MOFSL

ZEN has a wide variety of products in military training solutions:

- Training & Simulation designed by the company to meet the training requirements of the mechanized forces in field craft, battle drills, tactical and gunnery procedures.
- Live Simulation, which consists of TacSim indoor, combat training system, Shoot-Edge, etc.
- Virtual Simulation designed to train for real life situations. It also consists of rotary wing simulator, medium machine gun, automatic grenade launcher, etc.
- Live Ranges, which are designed to provide training for air-to-ground weapons delivery, and solutions include containerized indoor shooting range, tank targets, tank zeroing systems, etc.
- Anti-Drone Systems: Due to the entry of drone technology in warfare, there is huge scope for developing anti-drone technologies.

Exhibit 13: Revenue streams of ZEN

Training Simulation Equipment	Counter-Drone Solutions	Annual Maintenance Contract
Leader in defense training solutions	Anti-drone systems are used to detect and/or intercept hostile drones	Recurring revenue stream
Infrequent but large orders	System can detect and deactivate drones up to 20km radius (depending on the size of the UAV)	New simulator sales leading to growth in revenues from AMC
~90% of orders from repeat customers	Remote demonstration – getting positive response	Growing service revenue from AMC ensuring sustainability
Remote demonstration	Expecting big orders in the coming year	Reached about INR400m of annual AMC revenues

Source: Company, MOFSL

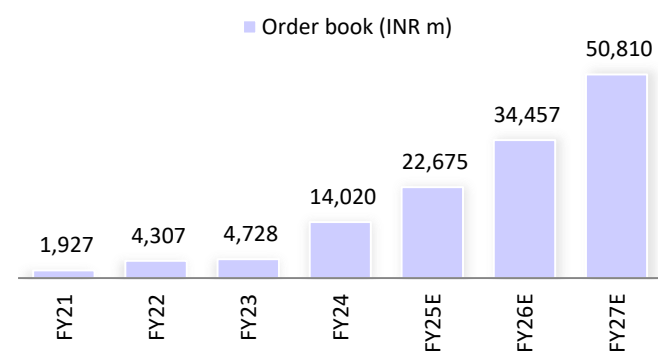
Growing addressable market; healthy market share of ZEN

- Over the next five years, the simulators market is projected to reach INR140-150b. ZEN currently faces minimal competition and is poised to capture an 80% market share within the same timeframe. For simulator, ZEN had 95% domestic market share in FY24 and the company won 11 out of 12 tenders.
- For anti-drones, there is a market of INR120b for jammer, detector, radar, and electro optics. Given the evolving nature of warfare, which is increasingly involving drones for spying, surveillance and reconnaissance, there is huge demand for anti-drone systems in India and globally so as to secure critical installations such as military bases, airports, refineries, financial institutions, etc. Within anti-drones, ZEN is the only company with full backward integration and competes with just 3-4 players domestically.

Robust order book and pipeline provide revenue visibility for next two years

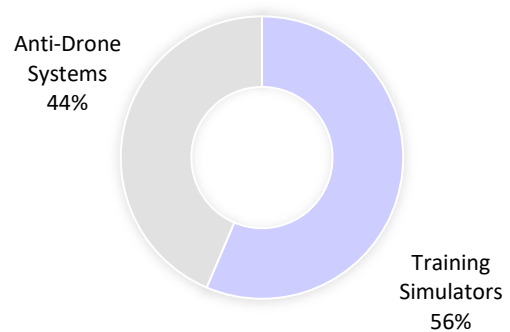
Over FY18-24, the company clocked a ~49% revenue CAGR on the back of improvements in execution and strong inflows. In FY24, the company won orders worth ~INR13.6b, taking the order book to INR14b, diversified across both simulators and anti-drones. ZEN was successful in winning bids for TACSIM, combat weapon training simulator, indoor containerized shooting range, universal driving simulator, 5/7.5 ton driving simulator, T-72 tank driving simulator, maneuver ranges simulator, counter unmanned aircraft system, and drone jammer against competitors. Moreover, there is a robust order pipeline for both simulators and anti-drone systems, which provides revenue visibility for the next few years.

Exhibit 14: We expect order book to grow at 53% CAGR over FY24-27E



Source: Company, MOFSL

Exhibit 15: Share of anti-drone systems has moved up in FY24 order book of INR14b (%)



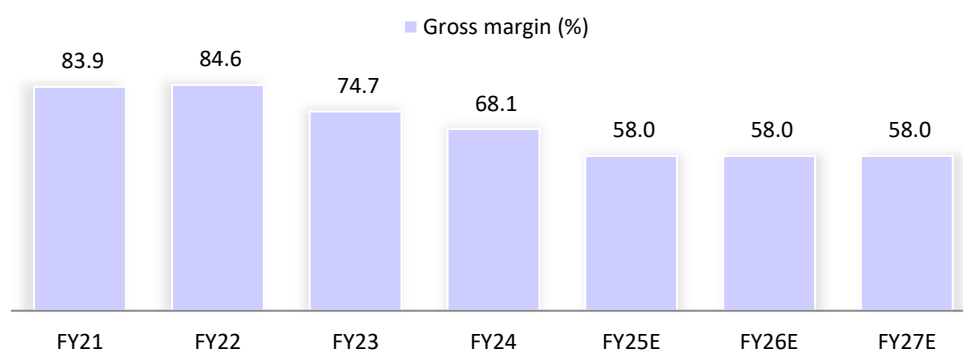
Source: Company, MOFSL

In-house manufacturing of products boosts margins

- For the manufacturing of simulators, ZEN controls the software aspect and outsources manufacturing. This helps ZEN control overall costs as raw material costs account for only 20-25% of total costs, while the remaining are R&D and IP costs.
- Similarly, for anti-drones, the company has in-house manufacturing of jammer and detector. Radar is developed by its subsidiary UTS. ZEN also has a 51% share in AI Turing, so the company is now completely integrated in the counter drone system.

This backward integration helps ZEN to compete well with other players and achieve EBITDA margins of around 35-40%.

Exhibit 16: Gross margin levels to remain healthy at 58 (%)



Source: Company, MOFSL

ZEN has been able to successfully deliver hard-kill anti-drone system

The company has successfully delivered its innovative anti-drone system with hard-kill (Zen ADS HK) to the Army Air Defence College in Gopalpur, Odisha, marking its entry into the hard-kill anti-drone system. Building upon its proven soft-kill anti-drone systems deployed by the Indian Air Force, Zen ADS HK offers a new layer of protection. This advanced system integrates seamlessly with existing legacy defence infrastructure, featuring a state-of-the-art ElectroOptical Tracking System (EOTS) designed and developed in-house by ZEN. EOTS combines a day camera, thermal camera, and Laser RangeFinder (LRF) for effective all-weather auto-tracking. The company's designed software system flawlessly integrates with L-70 Air Defence Gun, a mainstay of the Indian Army and numerous other countries. The system boasts versatility, allowing integration with various cue-able automatic gun platforms for wider deployment.

New product introduction on AI Powered Robots

Zen in collaboration with its subsidiary AI Turing Technologies, launched four new products - Hawkeye, Barbarik-URCWS (Ultralight Remote Control Weapon Station), Prahasta, and Sthir Stab 640 – catering to a wide range of defense requirements.

Hawkeye: This product epitomizes a state-of-the-art anti-drone system camera, featuring multiple sensor detection modules for all-weather drone tracking up to 15 km. It ensures continuous threat detection and enhanced security.

Barbarik – URCWS is the world's lightest remote-controlled weapon station, offering precise targeting capabilities (5.56mm to 7.62mm calibers) for ground vehicles and naval vessels, maximizing battlefield effectiveness while minimizing personnel risk. The URCWS has undergone recent firing trials at Infantry School Mhow and Armoured School Ahmednagar and performed well.

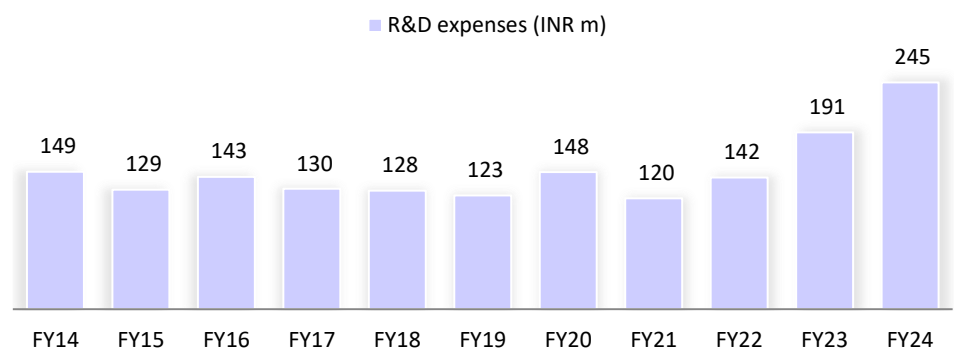
Prahasta is a revolutionary automated quadruped that uses LIDAR and reinforcement learning to understand and create real-time 3D terrain mapping for unparalleled mission planning, navigation, and threat assessment. The quadruped can be armed with various caliber weapons such as 9mm, 5.56mm, and 7.62mm. The quadruped can be used as the first line of defense for commandos during CI operations like 26/11, thereby saving lives.

Sthir Stab 640 is a rugged stabilized sight designed mainly for armored vehicles, ICVs, and boats. The sight encompasses an intelligent fiber optic gyro-stabilized system and delivers exceptional situational awareness with automatic search and tracking capabilities. The sight can be used in different weapon mounts such as 7.62mm, 12.7mm, 20mm, and 30mm.

Strong competitive advantage in patents and R&D

The company has IP-driven advantage (High IP Content and low BOM 15-35%) in the military training solution market. It has 150+ patents filed, of which 70 have been granted. Notably, the company does not depend on imports for supply chain. ZEN provides effective virtual demo, which saves cost and time; and because of this, ZEN has an asset-light business model. ZEN has a diverse customer base spanning 100+ government customers and it also has customer stickiness as 90% of its orders are repeat orders.

Exhibit 17: R&D expenses have been steadily rising; slated to reach ~INR300m in FY25



Source: Company, MOFSL

Asset-light model and improving return ratios

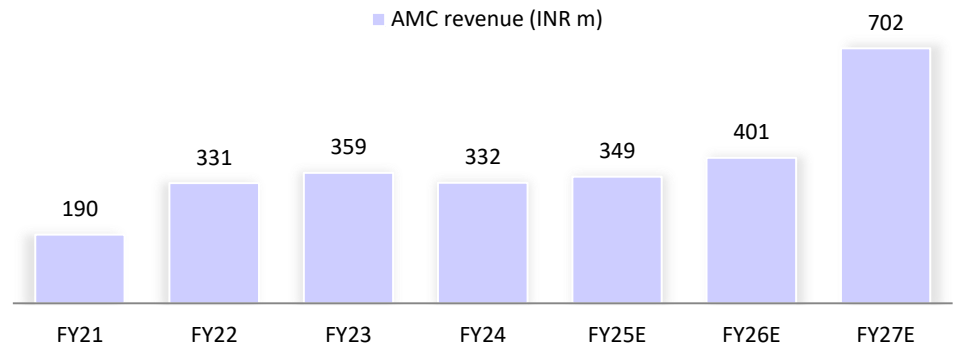
The company has an asset-light business model, which does not require high capital expenditure. The company instead invests in R&D, which helps to build robust

intellectual property rights (IPRs). ZEN has created a good base of vendors for manufacturing hardware of simulators and hence the simulator hardware manufacturing is outsourced. This helps it to generate a healthy fixed asset turnover ratio. Raw material costs are 20-25% of sales and hence gross margin is significantly higher. The asset light business model also helps to generate RoCE of 30-40%.

AMC business to grow in line with product with a time lag of 2-3 years

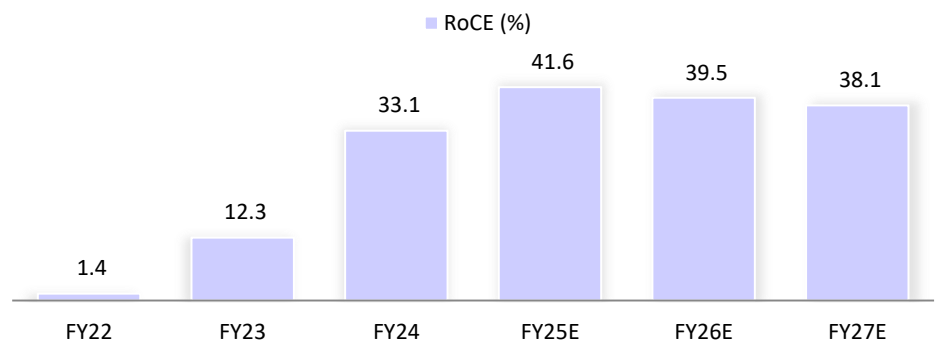
The supplies of simulators carry a warranty period of 36 months. The company receives back 10% of order value as AMC (annual maintenance contracts) after a gap of 36 months. The AMC business not only has a better margin profile but also offers stable annuity-type revenues vs. the lumpiness of new equipment orders. In FY24, the company generated 8% of overall revenue from AMC business. The lifecycle of a simulator is 15 years; thus, it creates lifetime revenue potential of 120% of product sale. With the increase in the installed base of simulators, AMC revenue is poised to see a healthy growth trajectory.

Exhibit 18: AMC revenue poised to clock in 28% CAGR over FY24-27E (INR m)



Source: Company, MOFSL

Exhibit 19: RoCE expected to witness a sharp improvement led by better profitability (%)

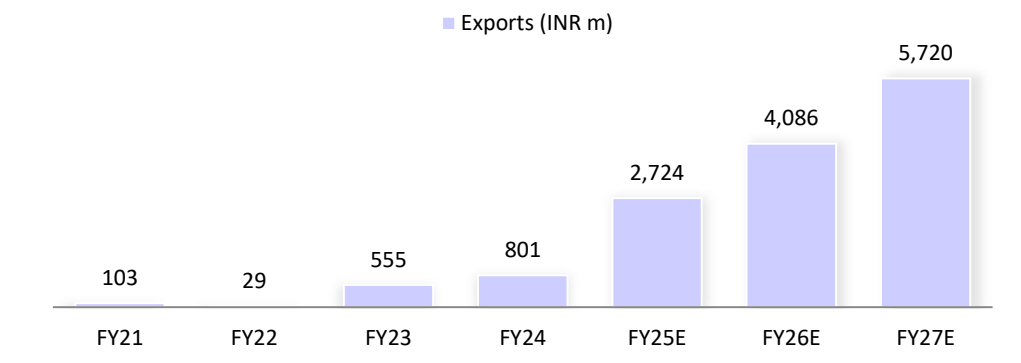


Source: Company, MOFSL

Exports emerging as a major contributor

The company is focused on expanding its geographical footprint by tapping opportunities in both anti-drone systems and simulators. Currently, it has a presence in markets such as Nigeria, Qatar, Malaysia, UAE, Kenya and Egypt. Going ahead, the government's push to boost defense exports will also help ZEN enter new geographies such as the US, the Middle East, Europe, CIS, and Africa. As of FY24, the share of exports in total sales stood at 19% and the company aims to increase it to 35% by FY28. This will boost margins as exports are more profitable for the company.

Exhibit 20: Exports poised to grow at a CAGR of 91% over FY24-27E (INR m)



Source: Company, MOFSL

ESG initiatives



Environment

- A recent study released by The Energy and Resources Institute (TERI) in Jun'23 clearly demonstrated that using simulators has immense benefits - both to the forces and the environment. In fact, the induction of simulators to train gunnery personnel on tanks can save as much as ~INR3.8b, including environmental costs. The company collaborated with TERI to enhance environmental awareness and promote sustainability. It also worked on an assessment of how simulators can enhance sustainability in the armed forces.
- The company has implemented various initiatives to reduce its carbon footprint and promote responsible waste management. Efforts include the implementation of recycling programs and composting organic waste, reducing waste generation wherever possible. By embracing green chemistry principles and exploring alternative materials, the company aims to minimize the use of hazardous and toxic chemicals, prioritizing the safety of both employees and the environment.
- The company considers sustainability to be its core value and strive to embed sustainable practices and processes across its operations. It is committed to taking concrete steps in its sustainability journey focused on environmental responsibility and upholding high ethical standards.
- ZEN does not use energy-intensive equipment for its operations. Computers, air-conditioners and other equipment being used by the company are energy efficient and environment-friendly.

Social

- No current or pending complaints of child labor, bonded labor, sexual harassment and discriminatory employment have been filed against the company. If workforce diversity is checked, the ratio is skewed toward higher male employees.

Governance

- ZEN's policies on ethics, bribery and corruption cover the company and all associated stakeholders. Company policies also encourage transparency and accountability.

SWOT analysis

- ❖ Present in high-growth segments of simulator and anti-drone
- ❖ Enjoys high market share in existing segments
- ❖ Years of experience in R&D and IP rights place it ahead of other players
- ❖ Continuously adding capabilities to widen offerings
- ❖ Building export and AMC segments to capture growth opportunities in global markets and have stable annuity business via AMC

S
STRENGTH



- ❖ Supply chain interruptions can disrupt production and delivery schedules, impacting business operations
- ❖ High working capital due to dependence on one client

W
WEAKNESS



- ❖ Make in India and defense indigenization provide a strong addressable market
- ❖ Several items of simulators and anti-drones are part of the govt's import embargo list where ZEN can participate in manufacturing
- ❖ Opportunity exists in exports too amid rising geopolitical tensions

O
OPPORTUNITY



- ❖ Increased competition
- ❖ Slowdown in defense spending
- ❖ Fluctuations in exchange rates and raw material prices can impact the supply chain

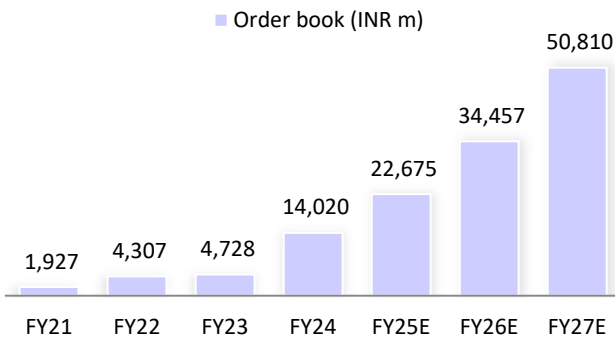
T
THREATS



Financial outlook

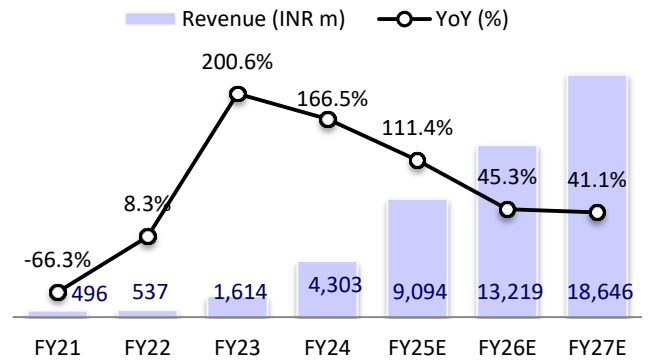
We expect order inflows of INR18b/INR25b/INR35b over FY25-27 and expect the order book to reach to INR51b by Mar'27. We expect ZEN's sales/EBITDA/PAT to post 63%/57%/56% CAGR over FY24-27. As a result, we expect its RoE/RoCE to expand sharply to 39% by FY27 from 33% in FY24. Over the next two years, we project its OCF/FCF to improve due to an improved working capital cycle.

Exhibit 21: Order book to be buoyant over FY24-27E



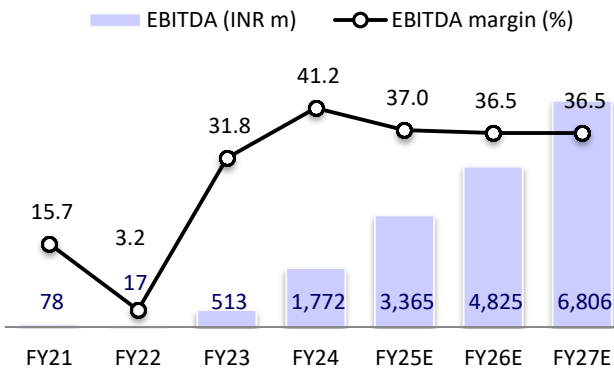
Source: Company, MOFSL

Exhibit 22: Revenue to clock in 63% CAGR over FY24-26E



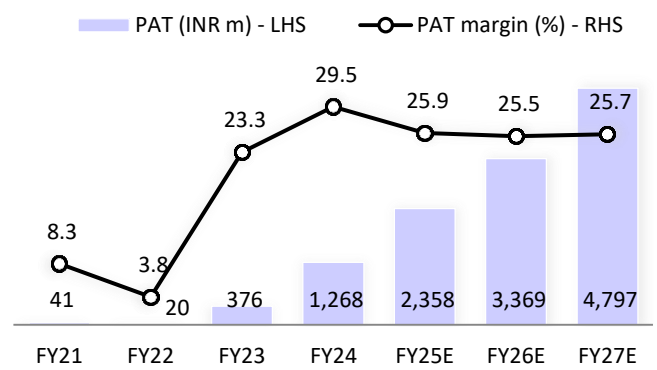
Source: Company, MOFSL

Exhibit 23: EBITDA margin to remain at healthy levels



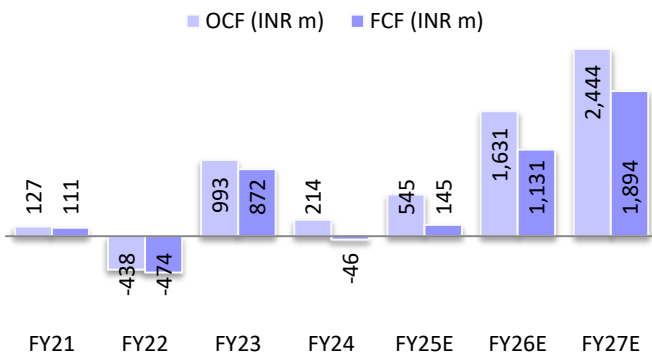
Source: Company, MOFSL

Exhibit 24: We expect 56% PAT CAGR over FY24-FY27E



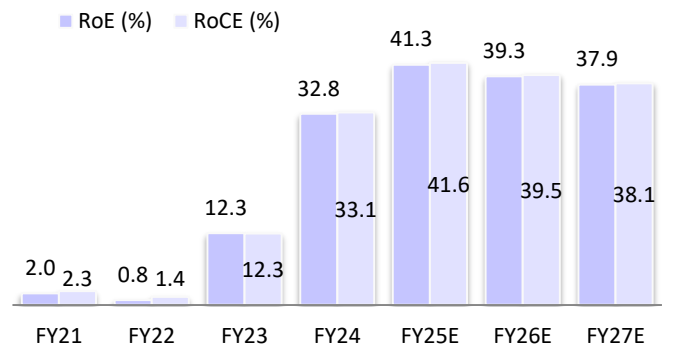
Source: Company, MOFSL

Exhibit 25: OCF & FCF to be higher led by improving operating performance (INR m)



Source: Company, MOFSL

Exhibit 26: We expect better return ratios led by improved profitability (%)



Source: Company, MOFSL

Key risks and concerns

- **Dependence on defense spending:** The company derives a bulk of domestic revenue from defense; hence, any change in the policy on procurements of simulators or delays in payments from Ministry of Defense can impact inflows, revenues and cash flows of the company.
- **Single segment focus risk:** Any kind of slowdown in procurement from the defense industry, particularly for simulators can expose the company to risk of slowdown in order inflows and hence growth.
- **Foreign currency risk:** The exposure to international revenue is subject to currency risk.
- **High working capital:** Historically, working capital has remained high for the company due to issues related to high debtors and high inventories. This is expected to come down on improved collections and lower inventory as per the management. Any delays on the same can impact cash flows for FY25/FY26E.

Valuation and view

We value the stock at 40x Jun'26E earnings. **We initiate coverage on the stock with a BUY rating and a TP of INR1,775.** We expect the company to: 1) grow at a much faster pace than the industry, 2) have a very strong margin, and 3) expand its capabilities across other defense segments.

Exhibit 27: Relative size comparison of defense focused companies

	Revenue (INR m)			EBITDA (INR m)			EBITDA margin (%)			PAT (INR m)			PAT CAGR%
	FY24	FY25E	FY26E	FY24	FY25E	FY26E	FY24	FY25E	FY26E	FY24	FY25E	FY26E	FY24-26
Zen Tech	4,303	9,094	13,219	1,772	3,365	4,825	41.2	37.0	36.5	1,268	2,358	3,369	63.0
Astra Microwave	9,088	10,977	13,404	1,916	2,458	3,138	21.1	22.4	23.4	1,211	1,588	2,063	30.5
Data Patterns	5,198	6,519	8,776	2,217	2,745	3,730	42.6	42.1	42.5	1,817	2,221	3,025	29.0
MTAR	5,808	7,618	10,314	1,127	1,699	2,682	19.4	22.3	26.0	561	987	1,758	77.0

Source: Company, MOFSL

Exhibit 28: Relative valuation of defense focused companies

Companies	Mcap (INR b)	EPS (INR)			P/E (X)			RoE (%)			RoCE (%)		
		FY24	FY25E	FY26E	FY24	FY25E	FY26E	FY24	FY25E	FY26E	FY24	FY25E	FY26E
Zen Tech	114	15.1	28.1	40.1	90.1	48.5	33.9	32.8	41.3	39.3	33.1	41.6	39.5
BEL	2,386	5.5	6.7	8.2	59.3	49.0	40.0	24.9	24.0	23.5	27.0	26.7	26.1
HAL	3,564	114.0	110.1	130.0	29.2	48.5	40.4	28.9	24.8	25.9	24.9	26.0	27.5
BDL	587	16.7	26.0	33.8	52.4	61.6	47.4	17.9	24.3	25.6	9.3	13.5	17.5
Astra Microwave	87	12.8	16.7	21.7	46.8	55.0	42.4	15.1	15.4	16.9	17.3	22.0	26.0
Data Patterns	185	32.4	39.7	54.0	74.6	81.0	63.1	14.6	15.5	17.2	15.1	16.0	18.3
MTAR	61	18.2	32.1	57.2	92.3	62.5	34.2	8.7	13.5	20.7	9.0	12.7	18.6

Source: Company, MOFSL

Company background

Incorporated in 1993, ZEN designs, develops and manufactures state-of-the-art simulator-based combat training solutions for the training of defense and security forces worldwide and also provides counter-drone solutions for safeguarding the borders, critical infrastructures etc. ZEN is headquartered in Hyderabad, India with offices in India, UAE and USA. With over 1,000 simulators and training systems shipped around the world, ZEN is a proven leader in building training systems for developing and measuring combat readiness.

Mr. Ashok Atluri, a first generation entrepreneur, heads the company. He is a PG Diploma holder in Applied Computer Science. With its proven technological superiority and track record, the company has constantly been able to gain repeat orders from its key customers such as the MoD, State and Central Police forces, and paramilitary forces. This acts as a formidable barrier for any new player.

The MoD has rolled out a comprehensive simulation framework aimed at enhancing the utilization of simulators by the Armed Forces and Coast Guard, with a view to achieve cost-effective, efficient and smart training. This enables the government to save costs that would have been otherwise incurred in case of using actual equipment. This shift toward simulation fits well with the company's offerings.

Management profile



Mr. Kishore Dutt Atluri (Founder, President & Joint Managing Director)

A post graduate in Computer Application from the University of Hyderabad, Mr. Kishore co-founded ZEN in 1993 with primary objective of designing and developing training simulators for defense and security forces. He has over 21 patents in his name and he is also in-charge of all defense marketing activities at ZEN, both domestically and internationally.



Mr. Ashok Atluri (Chairman & Managing Director)

Mr. Ashok, a PG Diploma holder in Applied Computer Science, is instrumental in designing simulators on the Windows/Intel platforms to ensure the products are simple to use and meet industry standards. He received the "Small Scale Entrepreneur of the Year" award from the Hyderabad Management Association in 1998.



Mr. M. Ravi Kumar - Whole Time Director

Mr. Ravi Kumar has over 20 years of experience in the software industry. He worked in Bureau of Data Processing Services (1979-85), Nova Computers Private Limited (1986-90) and as Director at the Institute of Engineers. He is actively involved in the design and development of the present range of simulators for the company in his role as Head of R&D Division.

Financials and valuations

Standalone - Income Statement

(INR m)

Y/E Mar	FY21	FY22	FY23	FY24	FY25E	FY26E	FY27E
Total Income from Operations	496	537	1,614	4,303	9,094	13,219	18,646
Change (%)	-66.3	8.4	200.6	166.5	111.4	45.3	41.1
Raw Materials	80	83	408	1,373	3,820	5,552	7,831
Gross Profit	416	454	1,206	2,930	5,275	7,667	10,815
Employee Cost	127	148	228	432	637	925	1,305
Other Expenses	211	289	465	726	1,273	1,917	2,704
Total Expenditure	418	520	1,102	2,530	5,730	8,394	11,840
% of Sales	84.3	96.8	68.2	58.8	63.0	63.5	63.5
EBITDA	78	17	513	1,772	3,365	4,825	6,806
Margin (%)	15.7	3.2	31.8	41.2	37.0	36.5	36.5
Depreciation	40	37	44	73	90	117	148
EBIT	38	-20	469	1,699	3,275	4,708	6,658
Int. and Finance Charges	10	14	20	18	28	30	33
Other Income	29	53	91	139	137	157	260
PBT bef. EO Exp.	57	19	539	1,820	3,384	4,835	6,885
EO Items	0	-2	14	-24	0	0	0
PBT after EO Exp.	57	20	525	1,844	3,384	4,835	6,885
Total Tax	16	-2	163	552	1,026	1,466	2,087
Tax Rate (%)	27.8	-7.9	31.0	29.9	30.3	30.3	30.3
Reported PAT	41	22	362	1,292	2,358	3,369	4,797
Adjusted PAT	41	20	376	1,268	2,358	3,369	4,797
Change (%)	-93.2	-50.5	1,753.7	237.0	85.9	42.9	42.4
Margin (%)	8.3	3.8	23.3	29.5	25.9	25.5	25.7

Standalone - Balance Sheet

(INR m)

Y/E Mar	FY21	FY22	FY23	FY24	FY25E	FY26E	FY27E
Equity Share Capital	80	80	80	84	84	84	84
Total Reserves	2,052	2,837	3,112	4,447	6,805	10,175	14,972
Net Worth	2,132	2,917	3,192	4,531	6,889	10,259	15,056
Minority Interest	0	0	0	0	0	0	0
Total Loans	9	123	59	0	0	0	0
Deferred Tax Liabilities	-206	-201	-134	63	63	63	63
Capital Employed	1,935	2,839	3,117	4,595	6,953	10,322	15,120
Gross Block	1,012	1,016	1,142	1,326	1,726	2,226	2,776
Less: Accum. Deprn.	391	425	468	541	631	748	895
Net Fixed Assets	621	591	674	785	1,095	1,479	1,881
Capital WIP	0	25	19	107	107	107	107
Total Investments	241	243	243	263	263	263	263
Curr. Assets, Loans & Adv.	1,169	2,517	3,394	6,029	10,960	16,429	24,090
Inventory	86	142	411	1,334	2,367	3,440	4,853
Account Receivables	174	196	662	1,691	3,575	5,196	7,330
Cash and Bank Balance	333	761	1,472	1,422	1,676	2,934	5,054
Loans and Advances	563	1,404	812	1,564	3,306	4,805	6,778
Other Current Asset	13	15	36	17	36	52	74
Curr. Liability & Prov.	95	538	1,213	2,589	5,473	7,955	11,221
Account Payables	78	520	1,190	2,559	5,408	7,861	11,089
Other Current Liabilities	17	18	23	0	0	0	0
Provisions	1	0	0	31	65	94	132
Net Current Assets	1,074	1,979	2,181	3,440	5,488	8,474	12,869
Appl. of Funds	1,935	2,839	3,117	4,595	6,953	10,323	15,119

Financials and valuations

Ratios

Y/E Mar	FY21	FY22	FY23	FY24	FY25E	FY26E	FY27E
Basic (INR)							
EPS	0.5	0.3	4.7	15.1	28.1	40.1	57.1
Cash EPS	1.0	0.7	5.3	16.0	29.1	41.5	58.8
BV/Share	26.8	36.7	40.1	53.9	82.0	122.1	179.1
Valuation (x)							
P/E	2,637.1	5,326.1	287.3	90.1	48.5	33.9	23.8
Cash P/E	1,336.5	1,877.1	257.4	85.2	46.7	32.8	23.1
P/BV	50.7	37.1	33.9	25.2	16.6	11.1	7.6
EV/Sales	217.5	200.1	66.1	26.2	12.4	8.4	5.9
EV/EBITDA	1,389.1	6,249.0	208.1	63.7	33.5	23.1	16.1
Dividend Yield (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FCF per share	1.5	-6.0	11.0	-0.6	1.7	13.5	22.5
Return Ratios (%)							
RoE	2.0	0.8	12.3	32.8	41.3	39.3	37.9
RoCE	2.3	1.4	12.3	33.1	41.6	39.5	38.1
RoIC	1.9	-1.4	20.3	56.9	59.2	55.0	55.5
Working Capital Ratios							
Fixed Asset Turnover (x)	0.5	0.5	1.4	3.2	5.3	5.9	6.7
Asset Turnover (x)	0.3	0.2	0.5	0.9	1.3	1.3	1.2
Inventory (Days)	64	96	93	113	95	95	95
Debtor (Days)	128	133	150	143	143	143	143
Creditor (Days)	57	353	269	217	217	217	217
Leverage Ratio (x)							
Current Ratio	12.3	4.7	2.8	2.3	2.0	2.1	2.1
Interest Cover Ratio	3.8	-1.4	23.1	92.3	118.6	155.0	199.3
Net Debt/Equity	-0.3	-0.3	-0.5	-0.4	-0.3	-0.3	-0.4

Standalone - Cashflow Statement

(INR m)

Y/E Mar	FY21	FY22	FY23	FY24	FY25E	FY26E	FY27E
OP/(Loss) before Tax	57	19	539	1,844	3,384	4,835	6,885
Depreciation	40	37	44	73	90	117	148
Interest & Finance Charges	-15	-30	-48	12	28	30	33
Direct Taxes Paid	-28	-12	-87	-321	-1,026	-1,466	-2,087
(Inc)/Dec in WC	74	-452	537	-1,405	-1,794	-1,728	-2,275
CF from Operations	127	-439	985	204	682	1,788	2,704
Others	0	1	8	10	-137	-157	-260
CF from Operating incl EO	127	-438	993	214	545	1,631	2,444
(Inc)/Dec in FA	-10	-36	-121	-260	-400	-500	-550
Free Cash Flow	117	-474	872	-46	145	1,131	1,894
(Pur)/Sale of Investments	-82	-3	-25	-42	0	0	0
Others	-84	-393	119	-518	0	0	0
CF from Investments	-176	-432	-27	-820	-400	-500	-550
Inc/(Dec) in Debt	-1	865	-64	-58	0	0	0
Interest Paid	-5	-9	-16	-12	-28	-30	-33
Dividend Paid	-32	-8	-8	-17	0	0	0
Others	134	25	-97	26	0	0	0
CF from Fin. Activity	97	873	-184	-62	-28	-30	-33
Inc/Dec of Cash	47	3	782	-668	118	1,100	1,861
Opening Balance	96	144	147	929	1,422	1,676	2,934
Other Bank Balances	189	614	543	1,161	137	158	259
Closing Balance	333	761	1,472	1,422	1,676	2,934	5,054

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