NIRMAL BANG
a relationship beyond broking

# Institutional Equities

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**Acknowledgment**

Nirmal Bang Institutional Equities would like to acknowledge Mr. Deepak Hota's invaluable contribution. His vast experience and erudite guidance have helped shape this report. He has painstakingly reviewed it and added depth to our understanding of the sector.

**DEEPAK HOTA**

Deepak Kumar Hota retired as CMD of BEML. He has over 7 years of board experience and over 36 years of industry experience. Since he was appointed CMD in July 2016, BEML has risen to the forefront of metro coach manufacturing in India, surpassing formidable competition from the foremost metro manufacturers worldwide. The culmination of his ceaseless endeavors was the company attaining its highest sales ever. He also transformed BEML into a green organization. A supporter of the Government of India's "Make in India" initiative, he devised a plan to increase independence and competence via indigenization. This has thus far led to the production, deployment, and design and development of India's largest electric dump vehicle and excavator.

He began his professional life at HPCL, overseeing the entire human resources function of the refinery and marketing organization throughout India. Subsequently, he was appointed as the sole HR professional to oversee the Marketing Research and Planning function at HPCL. He then assumed the role of CEO of HPCL Bio-Fuels.

He was appointed as Director of Human Resources at BEML in July 2013. With his extensive human resources and business operations background, Mr. Hota was selected as CMD of BEML in July 2016.

As BEML's CMD, he implemented various strategies to enhance the organization's agility and competitiveness. These included harnessing technological advancements, re-engineering operational procedures, forging strategic partnerships to facilitate business expansion, promoting indigenization and research and development, controlling costs, and optimizing workforce utilization. Additionally, he was primarily accountable for establishing IT as a critical enabler throughout BEML's enterprises.

He holds a postgraduate degree in Personnel Management and Industrial Relations from XLRI, Jamshedpur, and is a St Stephen's College, New Delhi graduate.

Throughout his illustrious career, he has won several accolades and awards, including the NHRD Award for Most Seasoned HR Professional of the Year 2014, CHRQ Asia Global HR Leaders Award 2015, Most Successful HR and CEO 2016 by NIPM, XLRI Distinguished Alumnus Award (Practicing Manager) 2016, ICC PSE Excellence Award 2017, CEO with HR Orientation Award by World HRD Congress 2018, FORE-TOP RANKERS Exemplary Leadership Award 2018, and Top Challengers Award 2017-2018 at Construction World.

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# India Defence Industry

Defence | Initiating Coverage

**POSITIVE**

**April 5, 2024**

## Moving Towards a Sustainable Defence Ecosystem

### Investment Rationale:

- **Industry background:** India is positioned as the 3rd largest military spender (as of FY23) in the world, with its defence budget accounting for 2.2% of the country's total GDP (USA: 3.5%, Russia: 4.1%, France: 1.9% and China:1.6%). The Government of India plans to spend USD 130 bn during FY24 – FY30, an increase of ~7% CAGR (GDP growth estimated to grow at a CAGR of ~6.5% during FY 24-30) for fleet modernisation across all armed services. The industry received USD 70 bn in the budget for 2023–24.
- **Lingering tensions in the immediate neighbourhood:** The impetus for India's defence industry was first realised when it faced drastic reverses in its conflict with China in 1962, which prompted India to increase its defence expenditure from 1.5% of the nation's GDP to 2.3%. Following the war between India and Pakistan in 1965, an embargo imposed by the United States of America ("USA") upon the export of arms to India heralded an era of defence ties with the Soviet Union.
- The uncertainties persist on its northern border with China and the western perimeter with Pakistan. Beyond economic policy, these externalities are also pushing the needle on India to restructure its military while also trying to enhance its defence production and export capacity.
- To strengthen defence manufacturing industry and address national security concerns, India has started focusing on domestic companies and reduced foreign defence imports through programs such as 'Atmanirbhar Bharat' and 'Make in India'.
- **Why invest in India:** The Government of India has implemented favourable policies. These include (1) raising the requirements for indigenised content under different categories and increasing the multiples assigned to technology transfer (TOT) in offset guidelines through DPP 2020; (2) promoting the Strategic Partnership (SP) model to encourage private participation; (3) imposing import embargo lists on 928 items in a phased manner for the domestic industry; (4) positive indigenization lists on 4,666 items for DPSUs; (5) increasing the maximum foreign direct investment (FDI) limit to 74% under the automatic route, and (6) establishing defence corridors in Tamil Nadu and Uttar Pradesh.
- The Indian government's target to achieve USD 5bn in export revenue, as set by the DPEPP (Draft Defence Production & Export Promotion Policy), is part of a larger goal of having a turnover of USD 25 bn in the defence sector by 2025.
- **Opportunities of over US$ 70 bn**, distributed over 8–10 years, for our coverage, compared to their total FY23 sales of just about US$ 7 bn. These orders have a high tangibility since the projects in the pipeline are for products that have already been created or for technology transfer (TOT) from foreign OEMs. Defence aerospace accounts for most of the potential, with ~US$ 30 bn, followed by missiles/artillery gun systems at ~US$ 22 bn and defence shipbuilding at ~US$ 16 bn

| Company Name (Rs.mn) | Rating | Market Cap (Rsbn) | CMP (Rs) | Target Price (Rs) | Upside / Down Side (%) |
|---|---|---|---|---|---|
| Bharat Dynamics Ltd | BUY | 322 | 1,759 | 2,045 | 16% |
| Bharat Electronics Ltd | ACC | 1,610 | 220 | 209 | -5% |
| Hindustan Aeronautics Ltd | ACC | 2,365 | 3,541 | 3,384 | -4% |
| Mazagon Dock Shipbuilders Ltd | BUY | 443 | 2,195 | 2,786 | 27% |
| Astra Microwave Products Ltd | BUY | 61 | 641 | 776 | 21% |
| Paras defence & Space Technologies Ltd | ACC | 28 | 706 | 714 | 1% |
| Bharat Earth Movers Ltd | ACC | 138 | 3,306 | 3,333 | 1% |
| Data Patterns (India) Ltd | ACC | 151 | 2,693 | 2,755 | 2% |

| Company Name | Revenue | EBIT | EPS | ROCE | ROE |
|---|---|---|---|---|---|
| | 2 year CAGR (FY24-26) | | | | |
| Bharat Dynamics Ltd | 39% | 46% | 31% | 36% | 15% |
| Bharat Electronics Ltd | 15% | 15% | 13% | 0% | -2% |
| Hindustan Aeronautics Ltd | 14% | 23% | 16% | 9% | -2% |
| Mazagon Dock Shipbuilders Ltd | 25% | 20% | 14% | 1% | -6% |
| Astra Microwave Products Ltd | 25% | 30% | 32% | 13% | 14% |
| Paras defence & Space Technologies Ltd | 13% | 37% | 37% | 28% | 28% |
| Bharat Earth Movers Ltd | 14% | 13% | 13% | -4% | 1% |
| Data Patterns (India) Ltd | 23% | 31% | 28% | 18% | 12% |

*Please refer to the disclaimer towards the end of the document.*

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- **Meeting future challenges:** For India's Defence Industrial Base (DIB) to become genuinely global, all government and commercial sector resources must be combined with R&D organisations and academics to form a single resource pool. This will significantly assist in optimising costs and quality while also allowing for cost-effective scaling up**.**
  - **Improving Public-private partnership:** Hitherto, 60% of the Indian defence industry was dominated by the public sector – National Technical Research Organisation (NTRO), Council of Scientific & Industrial Research (CSIR), Physical Research Laboratory (PRL), DRDO and its 50 labs, 4 defence shipyards, and 12 defence PSUs. However, liberalisation and progressive economic reforms towards the onset of the 21st century paved the way for the arrival of the private sector. In the Indian defence market, key players are Hindustan Aeronautics Limited (HAL), Bharat Electronics Limited (BEL), Defence Research and Development Organisation (DRDO), Rostec, and Airbus SE.
  - **Mergers and Acquisitions: For now, the emphasis is on building Green Field capabilities—** blending foreign hardware with Indian software. Investment is expected to migrate to mid-segment tier I and tier II suppliers in the next two to three years as foreign manufacturers evaluate Indian market potential.
- **The space sector:** Small satellite networks are proliferating as the world moves toward a space-based economy. The industry is carrying out an accelerating pace of launches in this domain. The Indian Space Sector was valued at $9.6 Bn in 2020 and contributes 2%- 3% of the global space economy. The size of the sector is expected to reach $13 Bn by 2025, and by 2030, India further aims to capture a larger share of close to 10% of the global economy.
- **The government has taken a slew of measures…**
  - The defence industry is widening its scope and promising effective results. For defence contractors, increased defence budgets represent an opportunity to place more equipment and military weapons systems within the country.
  - Essential defence products likely to attract increased interest from buyers include armoured ground vehicles, ground attack munitions, light air support aircraft, intelligence, surveillance, and reconnaissance electronic sensors, cyber protections, maritime patrol ships and aircraft, and provision for equipment maintenance and sustainment as the military operations tempo continues to increase.
  - The Defence Production and Export Promotion Policy, 2020, has boosted exports by requiring defence public sector undertakings to generate at least 25% of their revenue from exports, including success fees, by 2025. This policy leverages Defence Expo and Aero India to showcase India's defence production capabilities and promote Indian-made products. It also aims to achieve timely export clearances from the Department of Defence Production (DDP) and gain active support from the armed forces in exploring defence product export opportunities.
- **Export Opportunity:** With the' Make in India' initiative, the government has shifted gears to steer its indigenous defence industry into exports. The exports reached an all-time high of approximately INR 160 bn in the financial year 2022–23, which amounts to an increase of over ten times since 2016–17. A statement of purpose has been released to elucidate the process and documentation required for the grant of export license clearance. Creating an export strategy and granting online 'No Objection Certificates' ("NOC") to defence exporters are steps taken in this direction.

  The Indian government has pegged defence production at USD 25 bn by 2025, of which USD 5 bn will be from exports. A growing defence manufacturing and export base will benefit the country in the following ways:

- The defence export revenue can be used to fund parts of the state's defence expenditure and finance research and development (R&D) in the sector without compromising state expenditure on other developmental priorities.
- A robust indigenous defence manufacturing and export capacity will be a force multiplier for national security, insulating the economy from disruptions in supply lines during times of conflict.
- Better economies of scale
- Increase in savings and forex reserves.
- Increased competitive intensity among domestic industries

➢ **The next leg of growth in the Indian defence industry will come by addressing the core issues given below…**

- **Focusing on critical technologies**, the lengthy process involved in establishing capital and technology-intensive production base, challenges in conducting business operations due to strict labour laws and compliance requirements, inadequate funding for R&D, and a shortage of engineering and research skills.
- **Capacity buildup in core technologies**, low investment in R&D, concrete plans, timelines for execution and better incentives and the inability to produce critical subsystems and components have long hindered indigenous manufacturing in India.
- Additionally, the extended time required for production makes indigenous products outdated compared to emerging technologies. Furthermore, the skill gap has persisted due to a weak interface between industry and academia.

**Outlook and Stock Picks:** Increasing defence spending will stimulate market growth throughout FY24-FY26. Earlier, the impasse between China and India during the pandemic prompted the government to speed up the indigenisation of military equipment to decrease dependence on imports, facilitating market growth. Even with a sharp run-up in the stock prices of the defence basket (Nifty India Defence index 6m returns- 37%); our outlook on the sector remains optimistic due to the following factors: (1) visibility into long-term execution growth supported by a strong order book and a healthy pipeline; (2) timely execution facilitated by localization, integrated modular construction, and subcontracting; (3) government preference and domain expertise; (4) cash-rich balance sheets that prevent significant working capital challenges due to stage payments; and (5) in-house research and development investments and suitable technological support. Based on the attractive risk-reward ratio, we prefer Mazgaon Shipyard Docks Limited (MSDL), Bharat Dynamics (BDL), and Astra Microwave Private Limited (AMPL).

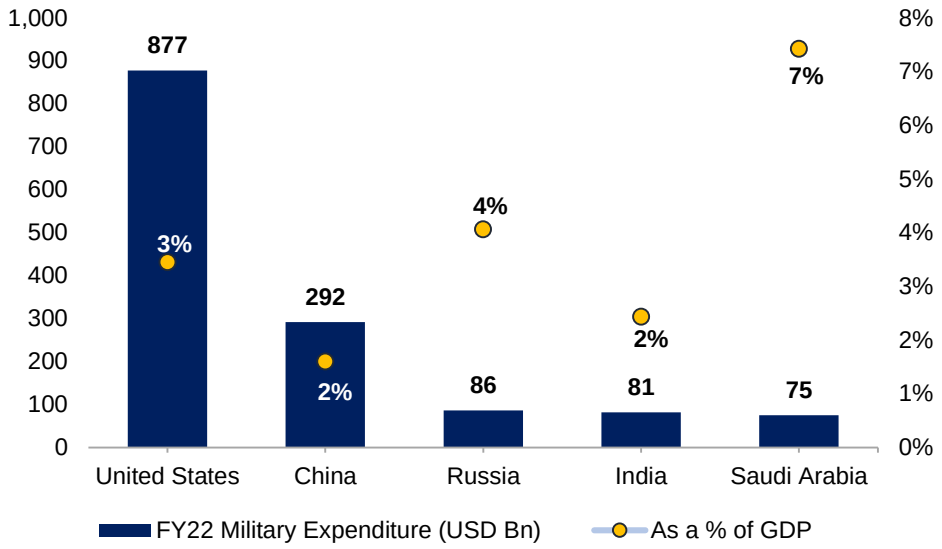
**Exhibit 1: Financial Summary**

| Company Name (Rs.mn) | Rating | Market Cap (Rsbn) | CMP (Rs) | Target Price (Rs) | Upside / Downside (%) | Revenue (Rs mn) | | EBITDA (Rs mn) | | EPS (Rs) | | P/E (x) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | FY25E | FY26E | FY25E | FY26E | FY25E | FY26E | FY25E | FY26E |
| Bharat Dynamics Ltd | BUY | 322 | 1,759 | 2,045 | 16% | 46,908 | 64,898 | 10,441 | 14,149 | 54 | 69 | 33 | 26 |
| Bharat Electronics Ltd | ACC | 1,610 | 220 | 209 | -5% | 2,38,521 | 2,76,563 | 57,365 | 64,970 | 6 | 7 | 37 | 33 |
| Hindustan Aeronautics Ltd | ACC | 2,365 | 3,541 | 3,384 | -4% | 3,36,430 | 3,84,516 | 84,786 | 1,02,981 | 97 | 116 | 36 | 31 |
| Mazagon Dock Shipbuilders Ltd | BUY | 443 | 2,195 | 2,786 | 27% | 1,15,977 | 1,52,387 | 14,370 | 17,205 | 85 | 100 | 26 | 22 |
| Astra Microwave Products Ltd | BUY | 61 | 641 | 776 | 21% | 11,399 | 13,986 | 2,459 | 2,987 | 16 | 19 | 41 | 33 |
| Paras defence & Space Technologies Ltd | ACC | 28 | 706 | 714 | 1% | 2,737 | 3,121 | 704 | 960 | 8 | 12 | 83 | 57 |
| Bharat Earth Movers Ltd | ACC | 138 | 3,306 | 3,333 | 1% | 57,127 | 61,191 | 7,869 | 6,905 | 123 | 115 | 27 | 29 |
| Data Patterns (India) Ltd | ACC | 151 | 2,693 | 2,755 | 2% | 6,691 | 8,281 | 2,746 | 3,617 | 41 | 53 | 65 | 51 |

*Source: Company, Nirmal Bang Institutional Equities Research*

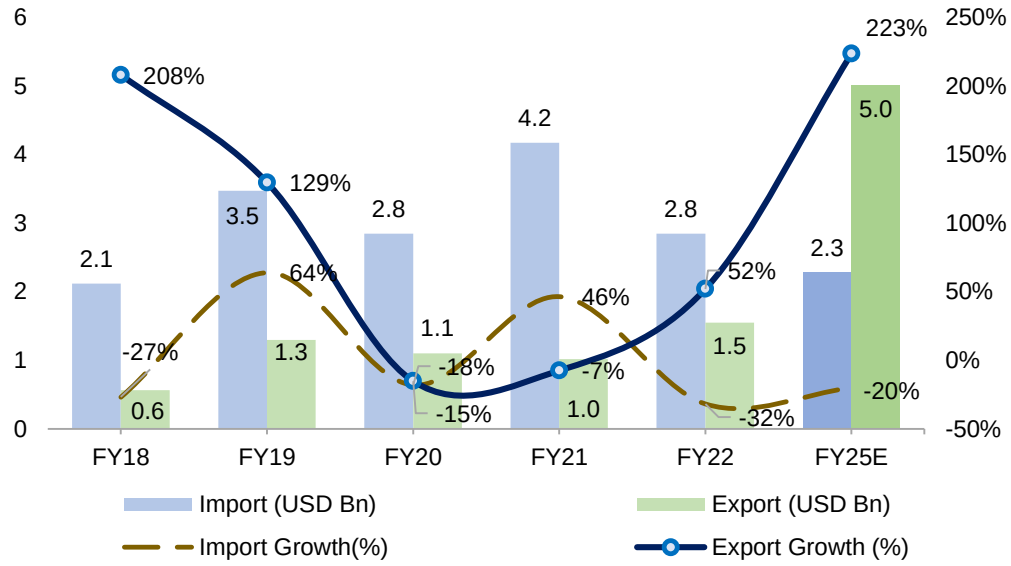
**The story is in the charts…**

**Exhibit 2: Defence expenditure to increase at CAGR of ~7% during FY24 – FY30**




*Source: SIPRI, NBIE*

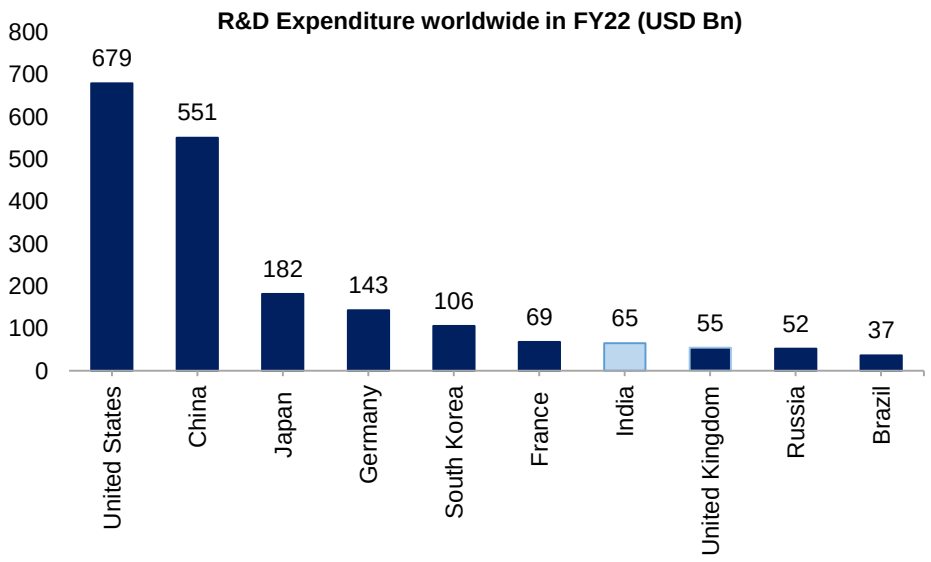
**Exhibit 3: Exports surged 10 folds due to increases in localised opportunities**




*Source: SIPRI.com, NBIE*

Despite an 11% decline in defence imports between 2013-17 and 2018-22 (Source: Swedish Think Tank Stockholm International Peace Research Institute (SIPRI), India remains the world's top arms importer in FY2019-23. Total armament imports from Russia declined from 64% to 45% during FY2019-23, with France emerging as the second biggest supplier. Defence exports hit a record high of $1.9 bn in FY 2022-23 and is expected to log ~2.9 bn in FY24. Russia, Poland, Spain, the Maldives, and Nepal are among India's main export destinations for military products.

**Exhibit 4: R&D spends to expand by 11% during FY24-30**



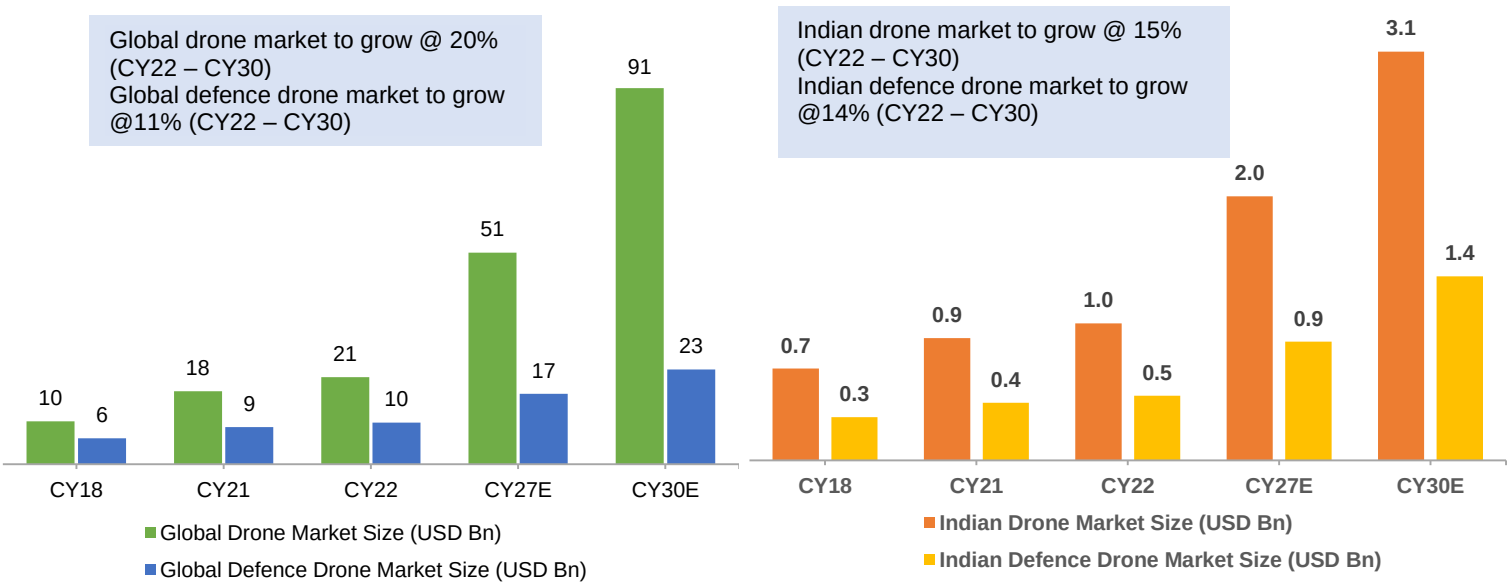

*Source: Sipri.com*

**Exhibit 5: Significant Underlying Opportunity in Naval defence**

| | USA | Russia | China | India |
|---|---|---|---|---|
| Aircraft Carriers | 11 | 1 | 2 | 2 |
| Helicopter Carriers | 9 | 0 | 3 | 0 |
| Destroyers | 75 | 14 | 49 | 12 |
| Frigates | 0 | 12 | 42 | 12 |
| Corvettes | 23 | 83 | 72 | 18 |
| Submarines | 64 | 65 | 61 | 18 |
| Patrol Vessels | 5 | 122 | 150 | 137 |
| **Total Vessels** | **187** | **297** | **379** | **199** |

*Source: Globalfirepower.com, NBIE*

**Exhibit 6: Drones Market Potential**




*Source: Ideaforgetech.com, NBIE*

**The ongoing border crisis with China is a stark reminder of the challenges that India's northern neighbour poses to the country's security**

The military relationship between India and China is complicated and multidimensional. Both countries have made enormous investments in modernizing and growing their armed forces, making them strong competitors in the Asia-Pacific area. China has a numerical edge regarding active military troops and total military assets. Its ambitious military modernization plans, which include technological improvements and strategic reforms, demonstrate its determination to become a global military force.

The continuous border disputes, historical difficulties, and geopolitical factors complicate India-China's military relationship. Both countries have no-first-use rules for nuclear weapons, emphasizing a commitment to a defensive posture.

**Exhibit 7: Fire Power Comparison between China & India**

| Indicator | China | India |
|---|---|---|
| Global Firepower Index Ranking (2023) | 3 | 4 |
| Available Manpower | 761.7 mn ( Rank 1) | 653.1 mn(Rank 2) |
| Fit-for-Service Manpower | 624.9 mn (Rank 1) | 515.5 mn (Rank 2) |
| Reaching military age annually | 19.7mn (Rank 2) | 23.6 mn (Rank 1) |
| Active Personnel ( Army) | 2 mn | 1mn |
| Active Personnel ( Navy) | 2,60,000 | 65,000 |
| Active Personnel ( Air Force) | 3,95,000 | 1,40,000 |
| Defence Budget | $230 bn (Rank 2) | $54.2 bn (Rank 4) |
| Number of Aircraft (Air Power) | 3,284 (Rank 3) | 2,210 (Rank 4) |
| Fighter Aircraft | 1,199 ( Rank 2) | 577 (Rank 4) |
| Aerial Tanker | 6 | 4 |
| Helicopters | 913 | 807 |
| Airports | 507 | 346 |
| Tank Strength ( Land Power) | 4,950 (Rank 4) | 4,614 (Rank 6) |
| Fleet Strength ( Naval Power) | 730 (Rank 1) | 295 ( Rank 7) |
| Aircraft Carriers | 3 (China's largest warship CNS Fujian) | 2 |
| Helicopter Carriers | 3 | 0 |
| Submarines | 78 (Rank 1) | 18 (Rank 18) |
| Destroyers | 50 | 11 |
| Ports & Terminals | 22 | 13 |
| Share of global arms import | 4.6% | 11% |

*Source of Information: CIA-The World Fact Book, Global Firepower, 2023, NBIE*

As these two regional nations expand their military capabilities, the balance of power remains a vital problem with consequences for regional and global security. Continuous monitoring and analysis of their military forces, plans, and geopolitical connections is critical for comprehending the changing security situation in the Asia-Pacific region and elsewhere.

## Table of Contents

**2023 was a year of global conflict. From the Russia-Ukraine war, which entered its second year, to the Israel-Hamas war, which started in October, these conflicts are tied to more significant geopolitical shifts that could realign the balance of power between the West and the rest.**

Given the intricate geopolitical realities of today, maintaining national security depends critically on the defence industry, forcing nations to bolster their military might. Those with solid military capabilities are modernising their armed forces and weaponry, and historically, weaker nations are devoting more funds to the defence industry. Weaker countries are strengthening defence cooperation and building alliances. The number of nations that make up the North Atlantic Treaty Organization (NATO) has increased from 12 to 31, with Finland becoming the most recent member on April 4, 2023, in response to Russia's invasion of Ukraine. Interestingly, there has been a notable 13% rise in military expenditure in Europe. The countries with the most significant rises are Poland (11%), Sweden (12%), Finland (36%), and Lithuania (27%).

## Conflict Hotspots in the Gulf and Africa

Over the past two years (2022-2023), 13 significant conflicts have taken place. One conflict is in Europe, the rest in the Gulf and the African continent.

**Exhibit 8: Continuing unrest in the African regions..**

| Started | Ended | Name of Conflict | Belligerents | |
|---|---|---|---|---|
| | | | Victorious party | Defeated party |
| 2022 | Ongoing | Russian invasion of Ukraine | Russia | Ukraine |
| 2022 | 2022 | al-Shabaab invasion of Ethiopia | Ethiopia | Al-Shabaab |
| 2022 | 2022 | Gaza–Israel clashes | Israel | Palestinian Islamic Jihad |
| 2022 | 2022 | Armenian-Azerbaijani clashes | Armenia | Azerbaijan |
| 2022 | 2022 | Kyrgyzstan–Tajikistan clashes | Kyrgyzstan | Tajikistan |
| 2023 | Ongoing | Las Anod conflict | Somaliland | SSC-Khatumo |
| 2023 | Ongoing | War in Amhara | Fano militia | ENDF |
| 2023 | Ongoing | War in Sudan | Sovereignty Council | Rapid Support Forces |
| 2023 | 2023 | Wagner Group rebellion | PMC Wagner | Russian government |
| 2023 | 2023 | Azerbaijani offensive in Nagorno-Karabakh | Azerbaijan | Artsakh |
| 2023 | Ongoing | Israel–Hamas war | Israel | Gaza |
| 2023 | Ongoing | Israel–Lebanon border clashes | Israel | Hezbollah |
| 2023 | Ongoing | American–Middle East conflict | United States | Syria |

*Source: Wikipedia.com, NBIE*

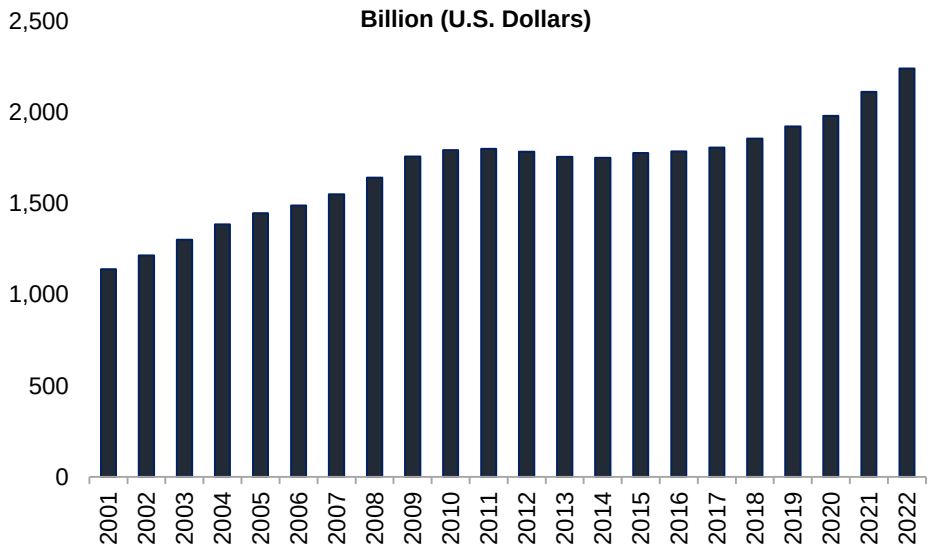
### Major Risks in 2024

- An escalation of coercive pressure by China on Taiwan, including heightened military activity involving the U.S. and other countries in the region
- An escalation of the conflict in Ukraine, resulting from the deployment of unconventional weapons, spillover into neighbouring countries, and/or direct involvement of NATO members
- A highly disruptive cyber-attack targeting American critical infrastructure.
- Growing civil unrest in Russia and a power struggle in Moscow due to popular discontent with the war in Ukraine and worsening economic conditions
- An acute security crisis in Northeast Asia triggered by North Korea's development and testing of nuclear weapons and long-range ballistic missiles.
- A military confrontation between Israel and Iran over the latter's nuclear program and its continued support to militant groups in neighbouring countries
- A migration surge to the U.S. due to increased violence, political unrest, and declining economic conditions in Central America and Mexico, aggravated by acute weather events.

## Global Military Expenditure

Worldwide, military expenditures have increased over the past five years. The last 15-year CAGR of military expenditure was 2%, and the 10-year CAGR was 2.5%. The recent 5-year CAGR crossed 3.8%, increasing to 4.2%, representing the last 3-year CAGR of military expenditure. Global military expenditure in 2001 was USD1,139bn, which rose to USD2,240bn in 2022.

**Exhibit 9: Rising tensions resulting in burgeoning defence spending**




*Source: SIPRI.org., NBIE*

## Leading Countries in Military Spending

The US military expenditure in 2022 was USD877bn, or 39% of the global military expenditure. China's military spent ~USD292bn, 13% of global expenditure.

India's military expenditure for 2022-2023 was at USD81.4bn, ranking 4th globally. This figure marks a 6% increase from 2021-2022. Saudi Arabian military expenditures have also surged 16% YoY. Japan's defence budget of USD46bn reflects the highest-ever spending due to increasing tensions in the East China Sea.

**Exhibit 10: Global highest military spending**

| Countries with the highest military spending (in bn U.S. dollars) | | | |
|---|---|---|---|
| Country | FY21 | FY22 | YoY Growth |
| United States | 871 | 877 | 0.7% |
| China | 280 | 292 | 4.2% |
| Russia | 79 | 86 | 9.2% |
| India | 77 | 81 | 6.0% |
| Saudi Arabia | 65 | 75 | 16.0% |
| United Kingdom | 66 | 69 | 3.7% |
| Germany | 55 | 56 | 2.3% |
| France | 53 | 54 | 0.6% |
| South Korea | 48 | 46 | -2.5% |
| Japan | 43 | 46 | 5.9% |
| Ukraine | 6 | 44 | 640.0% |
| Italy | 35 | 34 | -4.5% |
| Australia | 32 | 32 | 0.3% |
| Canada | 26 | 27 | 3.0% |
| Israel | 24 | 23 | -4.2% |

*Source: SIPRI, NBIE*

### The Geopolitical Environment and India's Defence Economy

India is studying future generations of warfare as it faces a two-front conflict. The northern state of Jammu and Kashmir and the North-Eastern state of Arunachal Pradesh are part of the territorial dispute with China and with Pakistan; it is the ownership of the Indian state of Jammu and Kashmir and the marshy area of Sir Creek. India must maintain a solid, independent defence force to maintain its non-alignment policy. It is investing in modernising its defence forces by bolstering its navy and air force capabilities.

## Indian Defence Landscape

### India's move to indigenous defence production

There are three broad motives for opting for domestic arms production.

1. Security of supply that guarantees a steady flow of arms and spare parts for use in times of need. With the possibility of a joint, two-front war with Pakistan and China very much part of India's defence planning, indigenous production of arms is vital to defend the country's sovereignty and territorial integrity.
2. India's arms production is techno-economic. Conserving foreign exchange, developing state-of-the-art defence manufacturing bases with backward/forward linkage with larger civilian industry, and creating employment opportunities have driven India's defence industrialisation process. In the early years of India's independence, low foreign exchange reserves motivated it to opt for licensed production of Russian weapons over the direct import of Western ones.

3. "Techno-nationalism" is especially pervasive in nations with regional or global aspirations like India, China, Japan, South Korea, and Indonesia, which use imported technology to achieve long-term self-sufficiency.

**Embarrassment in moments of Crisis despite the largest Defence Industrial base (DIB) amongst the developing world**

- India had faced arms embargoes, by the US, despite friendly relations, which stopped arms supply after the 1965 war and 1998 nuclear test.
- Under the Countering American Adversaries Through Sanctions Act (CAATSA), India, like some other recipients of Russian arms, was at the mercy of US foreign policy shifts.
- India's overwhelming dependence on Russia is also partly why GOI, despite criticism from its Western partners, adopted a "studied public neutrality" towards Russian military aggression against Ukraine.
- Developed nations supplied India with refurbished old weapons, 1970 vintage ammunition and dated satellite imagery during the Kargil War of 1999.

**Evolution of Defence Industrial Base (DIB) in India**

The pre-independence narrative is really simple; all defence-related infrastructure was established by colonial powers to maintain their authority via coercion, not to advance the technological skills of the Indians who did not own or control these units. Colonial powers established a vast network of ordnance factories to provide small guns and ammunition to their occupying soldiers locally, eliminating the need for a protracted supply chain from Britain or Europe.

During World War II, the British established 18 such ordnance factories to bolster their war effort in Asia and to maintain colonial control in India. Since 1947, 21 more ordnance factories have been built in India and have undergone significant changes.

- Dutch Ostend firm established the first gunpowder manufacturing facility at Ichhapur in 1712.
- British East India Company establisheded the Gun & Shell Factory in Cossipore in 1801
- Gun Carriage Agency set up in Cossipore in 1801
- Board of Ordnance opened at Fort William in Kolkata in 1775
- Gunpowder Factory opened in Icchapur in 1787, which was later turned into a Gun Factory in 1904.
- Walchand Hirachand founded the Hindustan Aircraft Limited (HAL) in Bangalore in 1940, seeing the potential for civil aviation in the country. In 1941, the British Indian government bought 25% of the shares and named a senior member of the Royal Air Force as the Director. The firm was nationalised by the British in 1942 and then transferred to the US Air Force in 1943. This allowed it to become a central Asian hub for the repair and service of US and allied military aircraft operating in the area.
- The Garden Reach and Mazagon Docks were two other significant defence installations established by the British. The latter began as the East India Company to service ships in 1774 and eventually developed into Peninsular and Oriental (P&O) and British India Steam Navigation. After being nationalised in 1960, it developed into a significant shipbuilding complex.

Though the British did establish a few defence firms in India, they did so only to aid the colonial police and army in their conflict with the local people.

**The Indian Defence Industry: Struggle with Change**

Following independence in 1947, the Indian government began to invest in Research & Development to build a solid local military sector. Subsequent decades saw significant modernization and expansion of India's military sector.

**Phase 1. The Quest for Self-Sufficiency (**from independence to mid-1960s)

**Nationalization of Defence units**

The first Industrial Policy Resolution of 1948, updated in 1956, placed essential sectors under public ownership, including guns & ammunition, railroads, air transport and atomic energy, with the state responsible for their growth. The 18 Ordinance Factories inherited from British India were supported by a rudimentary R&D setup. This later became a full-fledged organization called DRDO in 1958.

**Rising tensions at the border**

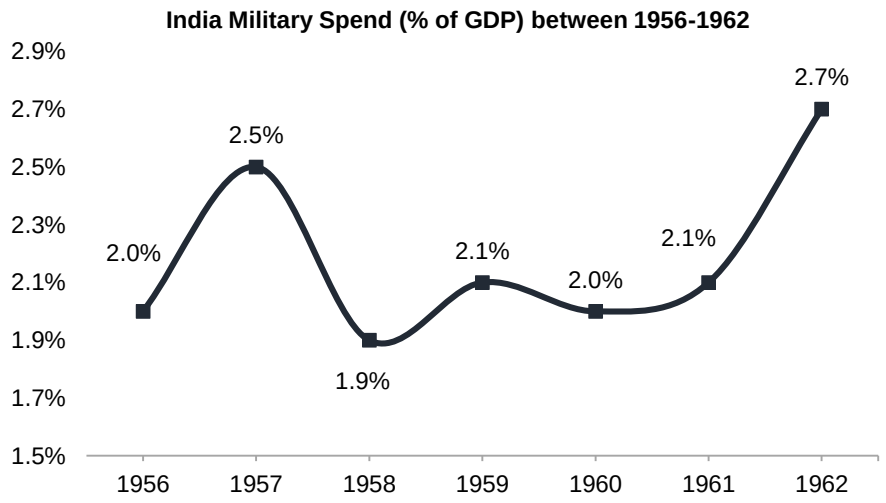
The goal of self-sufficiency was accelerated by the 1954 US-Pakistan strategic cooperation and border tensions with China in the late 1950s. Bharat Electronics Ltd (BEL) was founded in 1954 with French aid. In addition, the government purchased two shipyards, Mazagon Dock Ltd and Garden Reach Shipyard, and put them under the administration of the Defence Ministry to start naval construction.

**Blackett Report**

The self-sufficiency model, however, was limited in scope. It was influenced by British scientist P.M.S. Blackett, who submitted a report in 1948 articulating a plan of action envisaging indigenous manufacture of non-competitive weapons in large quantities. Long light anti-aircraft guns, 25-pounder field guns, light tanks, motor transport, naval escort aircraft, transport aircraft and trainers were classified as non-competitive weapons. In contrast, jet fighters, bombers, airborne radars, high-altitude anti-aircraft guns and heavy guns were classified as competitive weapons.

P.M.S. Blackett felt bulk manufacture of simpler weapons, given India's poor economy and minimal industrial base, would more than compensate for the need for competitive weaponry, providing "an extremely valuable stimulus to the economy and a very significant step forward in industrialization." The report also advocated defence expenditure of less than 2% of the GDP, which was the average during the 1950s and early 1960s until India went to war with China in 1962.

**Exhibit 11: Production of non – competitive weapons to support the economy**




*Source: SIPRI, macro trends, NBIE*

**Lack of R&D and industrial base**

Defence production up to the mid-1960s was impressive despite significant flaws in the self-sufficiency model, which was based on low-end technology and limited reliance on state finance. In the 1950s, the construction of ordnance factories "reduced India's reliance on foreign (primarily British) sources, which accounted for ~90% of India's military equipment and stores in 1950."

By 1953, India manufactured 80% of the Army's light equipment and was self-sufficient in non-lethal stocks and equipment. During this time, the government also launched programs in ordnance factories to produce tanks, trucks, tractors and jeeps, for which technical help was sought from foreign countries.

The self-sufficiency paradigm was followed at a more ambitious level in aeronautics by Hindustan Aeronautics Ltd. (HAL), which was taken over by the MoD in 1951. HAL made significant progress in aircraft assembly under license throughout the 1950s, including the Prentice, Vampire, De Havilland and Pushpak trainers, the Douglas C-47 transport and the Vampire fighter aircraft. Along with assembly, HAL designed and developed trainers and fighters in-house, notably the HT-2 leading trainer and the HF-24 Marut fighter.

Naval construction was given a low priority during the early stages of industrialization, partly due to Pakistan and China's perceptions of land- and air-centric threat perceptions and the benign influence of British naval presence in the Indian Ocean. Only in 1955 was a minor order given to a local shipyard to build a survey vessel.

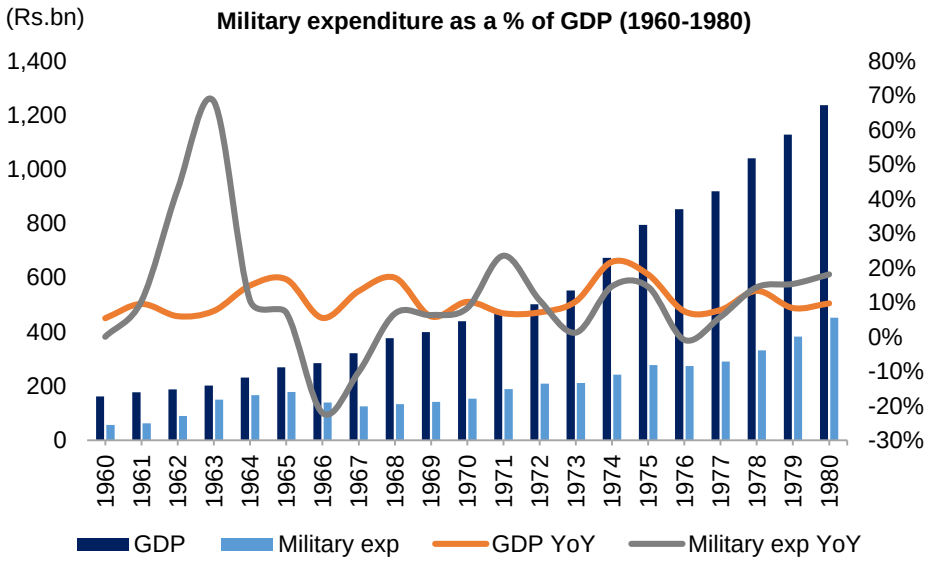
**Flaws in the self-sufficiency model**

Despite the military industry's widespread success, the self-sufficiency paradigm had weaknesses. Defence funding was low, and the R&D and industrial base were inadequate. Between 1950-51 and 1960-61, the share of central government spending on the military decreased by more than half, from 33% to less than 16%. The Blackett analysis ruled out the need for India to do complex system research and development. This, combined with the lack of a civil industrial base, substantially impacted indigenous content and the manufacturing timeframe. Production projects supported by international funding, such as Komatsu tractors, Shaktiman and Nissan trucks, and Nissan patrol jeeps, were reportedly behind schedule and heavily reliant on foreign components. The situation was far worse in the aviation industry, which took some extreme measures. Despite its expertise in aircraft design, HAL relied on foreign suppliers not just for steel and aluminum but also for all instrumentation, undercarriage, brake systems, communication systems, and electrical components.

**Phase 2. License Raj (**from the mid-1960s till the mid-1980s)

The events of the 1960s, notably the war with China in 1962 and the India-Pakistan conflict in 1965 resulted in a significant shift in India's security strategy. India's defence expenditure as a proportion of GDP rose in the following years, as did the approach to weapons acquisition policy and the indigenous defence industry.

**Exhibit 12: Step towards national security**




*Source: SIPRI, Macro trends*

After 1962, India received military support from various countries, including the US. However, the US embargo imposed during the India-Pakistan conflict in 1965 played a significant role in India building tight defence ties with the Soviet Union. This tight collaboration began with the MiG-21 aircraft (signed in October 1962), which cleared the path for HAL to produce the aircraft under licence.

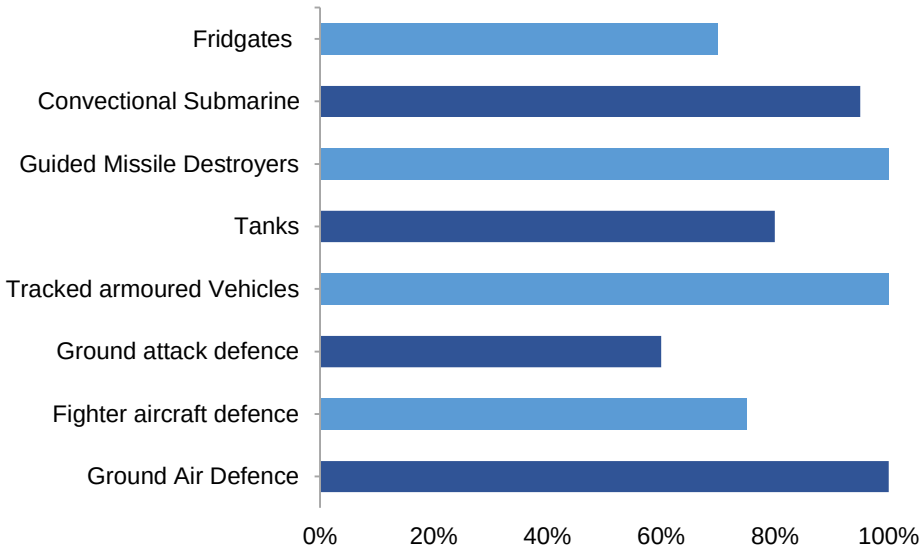
**The Soviet Union supplied the lion's share of India's defence equipment**

By 1980, almost 70% of Indian weapons were of Soviet make. The conflict with China also resulted in a considerable increase in the defence industrial base. Eleven ordnance factories were built between 1962 and the mid-1980s, including the Ordnance Cable Factory in Chandigarh (1963) and the Vehicle Factory in Jabalpur (1969). Mishra DhatuNigan Ltd (MIDHNI) and BEML were also established to manufacture specific steel/alloys and military vehicles.

**Mig-21 fighter aircraft, manufactured by HAL, stood as a stark symbol of License Raj**

DRDO also received a significant boost, with DRDO labs expanding to conduct research in aeronautics, electronics, marine technology, materials, biological sciences and engineering equipment. The emphasis in this period of India's defence industrialization was on licenced manufacturing rather than indigenous production. Aside from the MiG-21, several other programmes, including tanks and destroyers, were licenced for manufacture.

**Exhibit 13: Complete dependence on Soviet Union by end Cold War**




*Source: Ministry of Defence, NBIE*

100% for ground air defence, 75% for fighter aircraft defence, 60% for ground attack aircraft, 100% for tracked armoured vehicles, 80% for tanks, 100% for guided missile destroyers, 95% for conventional submarines, and 70% for frigates.

**Phase 3. A renewed effort to galvanize DSPUs (**from the mid-1980s till the early 2000s)

In the mid-1980s, the government increased R&D funding to allow DRDO to take up high-profile projects. The government authorised the Integrated Guided Missile Development Programme (IGMDP) in 1983 at a cost of Rs3.89bn to develop four missile systems - Prithvi (surface-to-surface), Akash (surface-to-air), Trishul (naval version of Prithvi) and Nag (anti-tank) - and a Technology Demonstrator, Agni. The government also approved the Light Combat Aircraft (LCA) project in the same year for Rs5.6bn to build an indigenous fighter aircraft.

However, indigenous efforts were insufficient to fulfil the expanding demands of the armed forces. This compelled the administration to seek solutions from other sources. In 1998, India and Russia inked an inter-governmental agreement to jointly develop the BrahMos supersonic cruise missile. In India, a joint venture (JV) with an authorised capital of USD250mn was formed, with India

owning 50.5% and Russia owning the rest (the equity structure was intended to allow the JV to function as if it were a private firm, allowing for quick decision-making).

Since BrahMos, India has undertaken various joint initiatives, including those for combat and transport aircraft, as well as missile systems. Taking the BrahMos concept further, India and Russia inked two inter-governmental agreements in 2007 to co-develop and co-produce a Multi-Role Transport Aircraft (MTA) and a Fifth Generation Fighter Aircraft (FGFA). Both projects would have a 50% Indian investment. Following the agreement, HAL, the authorised Indian partner for these aircraft, signed Preliminary Design (PD) contracts with its Russian partners in 2010. The FGFA PD, valued at USD295mn, was scheduled to be completed in 18 months beginning in February 2011, following which full-scale design work would begin. Initially, India intended to procure up to 250 FGFAs beginning 2018. India and Russia launched a JV in 2010 with an initial investment of USD600.7mn (at 2006 prices), to be paid equally by both parties.

Aside from Russia, India also inked cooperative research agreements with Israel. DRDO and Israel Aerospace Industries (IAI) worked on 2 missile systems: Long Range Surface Air Missile (LRSAM) and Medium Range Surface Air Missile (MRSAM), which helped cement the increasing military commerce between India and Tel Aviv. The Indian Navy successfully tested the LRSAM on December 30, 2015.

**Phase 4. The arrival of the Private Sector** (from the mid-2000s to late 2014)

Co-development/co-production remained a distinct feature of India's defence industrialization process since the late 1990s. Still, the approach to self-reliance took a significant turn in the early 2000s when the government allowed 100% private sector participation in defence production. The private sector was given complete access to the defence industry. Introducing the ‘Make’ type of procurement in the Defence Procurement Policy, 2006 allowed the industry to develop and produce advanced defence equipment, with government commitment to provide 80% of the development costs.

**Lengthy liberalization process deterrence to private participation**

However, the liberalisation process was lengthy, returning to the formation of six task forces to investigate the issue in 1998. As a result, the government eventually opened the military industry to the private sector in 2001, with further Foreign Direct Investment (FDI) of up to 26% allowed. This did not, however, imply easy access to defence contracts, as the MoD's Defence Procurement Procedure (DPP), which specifies detailed rules and procedures for capital procurement and the source of procurement, lacked sufficient provisions to allow private companies to participate in defence contracts. The government continued its reliance on the import of advanced weaponry, with new fighter aircraft such as the Sukhoi 30 MKI being inducted into the Indian Air Force, submarines and missile destroyers being purchased for the Indian Navy and howitzers such as the BOFORS system being purchased for the Indian Army.

**Towards liberalization and progressive economic reforms**

The **successive Defence Procurement Procedure (DPP)** incorporated several measures, such as the offset clause and two new procurement categories - Make and Buy and Make (Indian) to facilitate provisions. Foreign businesses that win MoD contracts of Rs3bn or more were obliged to pay back 30% of the foreign currency component of the contractual value to Indian defence industries under the offset clause initially announced in 2005.

To facilitate the private sector's earning of offsets, the government offered international corporations unlimited discretion to choose their Indian partners. The private sector was envisaged as the preferred partner for foreign enterprises in fulfilling offset requirements and learning about the nuances of defence manufacturing because of its dynamism and flexibility.

**The Make category, introduced in the DPP-2006**, is a relatively groundbreaking initiative meant to provide Indian industry, particularly large private firms, the ability to design, develop and create 'high technology complex systems' indigenously. The government was committed to covering 80% of the development costs for the Make initiatives. Following the formulation of the Make category, two major army projects - Tactical Communication System (TCS) and Future Infantry Combat System (FICV) - were first selected, with a proposal to award up to 150-180 projects over time.

The Make in India category supplemented the category by awarding MoD contracts to Indian businesses, which were then compelled to develop technical alliances with international firms. This was a significant shift from another existing buy-and-make category, which the MoD had previously used to select its firms to carry out licensed manufacture (based on technology given by foreign corporations).

**DPP-2013** granted vendors participating in Buy (Global) contracts some leeway in providing MToT (Maintenance Transfer of Technology) to an Indian private firm. Previously, the MoD held the authority to choose the Indian partner, which was always a public sector business under its supervision. However, the most significant change in DPP-2013 was the recommended order of classification, which was: (1) Buy (Indian); (2) Buy & Make (Indian); (3) Make (Indian); (4) Buy & Make; and (5) Buy (Global). The importance of the categorization order is that when obtaining in-principal permission from the government, the armed services must employ the higher categories or provide an explanation for not doing so. The goal was to limit large-scale import via the Buy (Global) route, which was currently the least desired alternative and encourage self-reliance by placing the onus on the armed forces to hunt for indigenous-centric categories as a default option.

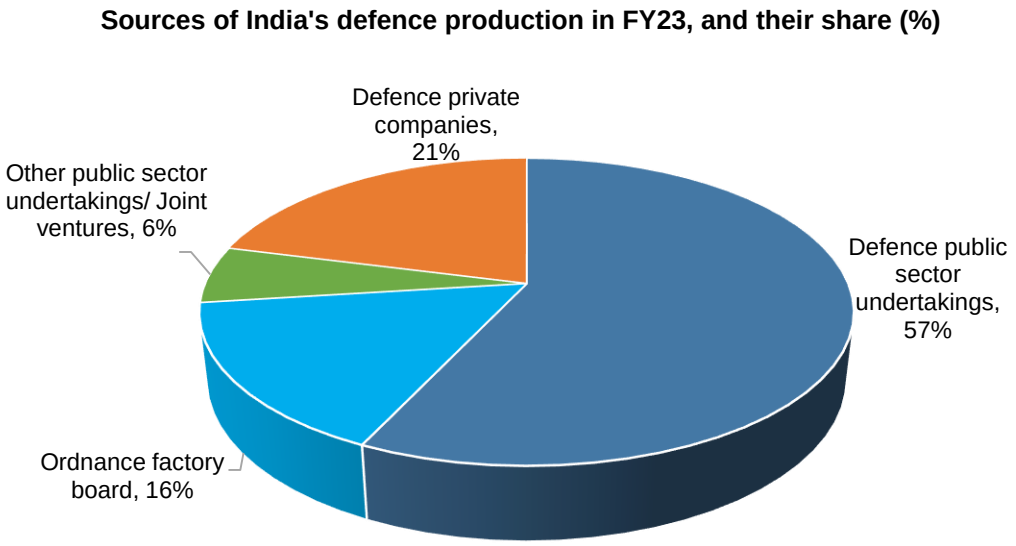
**Competitive bidding is preferred over Nomination**

What was significant from the private sector's perspective was the higher preference given to **"Buy and Make (Indian)" over "Buy and Make**", which has traditionally been used by the MoD to negotiate technology transfer agreements with foreign vendors and hand over the negotiated production licences to public sector units on nomination. The first two priority groups, accounting for 93% of the value of Acceptance of Necessities (AoNs) awarded by the Defence Acquisition Council (DAC), benefited because of this critical shift.

**Continued dominance of the PSUs**

However, all these deals involved Foreign Military Sales (FMS) agreements. More importantly, the private sector had yet to play a substantial role in domestic weapons manufacture, which is now dominated by state-owned enterprises. The primary reason for this is the MoD's inability to complete even a single large contract under two new procurement categories, "Buy and Make (Indian)" and "Make," which were critical to private-sector big-ticket production. At the same time, the private sector faced new challenges as it expanded into the military industry. The difficulties stem from several unsolved concerns, including industrial licensing, financial terms of participation, and a level playing field in contrast to government-owned businesses. These were some of the impediments addressed by the Modi government's Make in India project.

**Exhibit 14: Despite years of privatization promotion, PSUs still make most of India's defence production**




*Source: Ministry of Defence, NBIE*

**Phase 5. "Make in India" Initiative (from 2014 onwards)**

The Make in India project covered 25 industries and was part of the Modi government's bigger economic goal to increase manufacturing's contribution to the GDP to 25% (from 16% now). Furthermore, the model was somewhat different to the preceding one in that both aim to achieve the same general objective of self-reliance in military manufacture via increased private-sector engagement. The difference between Make in India and the preceding model was the increased degree of political and bureaucratic resolve to accomplish the goal.

The GOI implemented a slew of 'ease of doing business' measures besides imparting an element of decisiveness in decision-making. These included:

**Defence Acquisition Procedure 2020**

The Defence Acquisition Procedure 2020 ("DAP 2020"), which supersedes the Defence Procurement Procedure 2016 ("DPP 2016"), is a step by the Ministry of Defence towards improving the capital procurement procedure in alignment with the 'Make in India and 'Aatmanir bharat' initiatives. Some conceptual, structural and procedural changes have been made within this broad framework "to ensure timely acquisition of military equipment, systems and platforms as required by the Armed Forces in terms of performance, capabilities and quality standards, through optimum utilisation of allocated budgetary resources".

**Exhibit 15: Procurement Procedures to improve further**

| Category | DPP 2016 | DAP 2020 |
|---|---|---|
| Buy (India -IIDM) | Min 40% | Min 50% |
| Buy (India) | Min 40% | Indigenous design- Min 50%<br>Otherwise - Min 60% |
| Buy and Make (India) | Min 50% of Make | Min 50% of Make |
| Buy ( Global - Manufacturer in India) | Category did not exist | Min 50% of Buy plus Make |
| Buy (Global) | Category did not exist | Min 30% for Indian vendors |

*Source: GOI , NBIE*

**Min: a minimum of 40% or 50% of the contract to be produced indigenously*

**Industrial licensing:**

- To expedite the process, the government made a public version of a list of military equipment available online. It also increased the validity of IL from 3 to 18 years, abolishing the yearly capacity requirement as a prerequisite for granting IL, and allowed the sale of defence equipment to government and public sector units and firms with valid IL without the need for authorization from the MoD.

**Enhanced FDI limits:**

In the last few years, the government has brought major FDI policy reforms to many sectors, including defence. The new FDI Policy 2001 was further enhanced and liberalized in 2020, allowing FDI under the automatic route up to 74% and up to 100% through the government route, wherever it is likely to result in access to modern technology. Since the notification of the revised FDI policy, the total FDI inflow reported till May 2022 is approximately INR 4.9 bn.

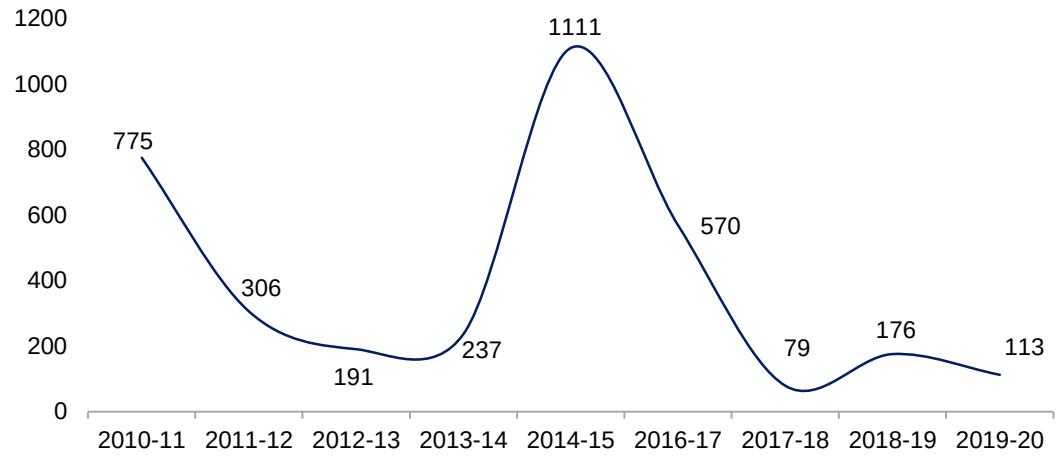
1. The Department of Defence Production (“DDP”) has implemented several policy reforms to attract investment:
2. The offset policy offers higher multipliers to encourage investment and technology transfer in defence manufacturing.
3. Regular consultations are held with the Foreign Original Equipment Manufacturers (‘FOEMs’) to foster collaboration and address their needs.
4. Two Defence Corridors have been established in Tamil Nadu and Uttar Pradesh, providing ready-to-use infrastructure and support to industries, including FOEMs. These corridors offer customized incentive packages based on investment, employment, and project location. Incentives may include goods and services tax (“GST”) refunds, stamp duty concessions, electricity tax exemptions, capital and training subsidies for workers.
5. A defence investor cell has been established to provide comprehensive information and address queries regarding the sector's investment opportunities, procedures and regulatory requirements. The cell has successfully resolved 1,445 queries thus far.

**Level playing Field**

The private sector has long desired a level playing field with public sector defence manufacturing units, which had hitherto been exempt from paying central excise and customs duties on commodities supplied to the armed forces. As a result, the government removed both exemptions on April 30, 2015. These led corporations such as Boeing, Airbus, Lockheed Martin, and BAE Systems to seek future investment opportunities in India actively.

Make in India also highlighted the need of placing the private sector at the center of the procurement process. During the first year of the Modi administration, 39 purchase bids were cleared, with 32 projects totaling Rs889bn (or 96% of total value) falling under the Buy (Indian) and Buy & Make (Indian) categories.

**Exhibit 16: AoNs Approved from FY 2010- FY 20**




*Source: Make in India: the way ahead for indigenous defence production in India, Ministry of Defence, NBIE*
*AoNs: Acceptance of Necessities***

- It was worth noting that virtually all the major ideas included a role for the private sector and in certain instances (such as the Avro Replacement Aircraft project), the involvement is exclusive. For the P-75 (I) project, the government reversed the previous administration's decision (to import two submarines followed by license-manufacturing of four by public sector shipyards) and decided to build all six submarines in domestic shipyards, with the private sector given a chance to compete.
- In the Avro Replacement programme, the government not only demonstrated decisiveness in quickly overcoming certain reservations (about the exclusion of HAL from the programme) carried over from the previous administration but also went ahead and accepted the only single bid submitted jointly by Tata and Airbus - a rarity in India's decision-making scheme of things.
- The government chose to exclude the public sector Cochin Shipyard Ltd from the landing platform dock (LPD) contract and instead award the tender to private shipyards solely. More importantly, it made some tangible measures towards implementing the Make method, which had been dormant since its articulation in 2006. The government awarded the first-ever developmental contract in February 2015 to two selected corporations, including two private businesses, Tata and L&T, to create the Battlefield Management System (BMS) prototype.
- L&T signing a Licensing Agreement for Transfer of Technology (LAToT) with DRDO for an enhanced digital version of the Pilotless Target Aircraft (PTA), Lakshya, exemplifies confidence with the private sector. This is the first time that DRDO technology for a high-value product was licensed to the commercial sector. All of this means that the private sector will now play an equal part in India's defence manufacturing industry. This shows that the formerly marginalized private sector now plays an equal part in India's defence industry.

## ATMANIRBHAR BHARAT – 2013: surprise elements can come from equipment developed indigenously.

For the first time since independence, India introduced large-scale indigenous weapon platforms and systems such as medium guns, radars, and surveillance systems, battle tanks, rifles, night vision devices, fighter planes, combat helicopters, trucks, armored personnel carriers, etc.

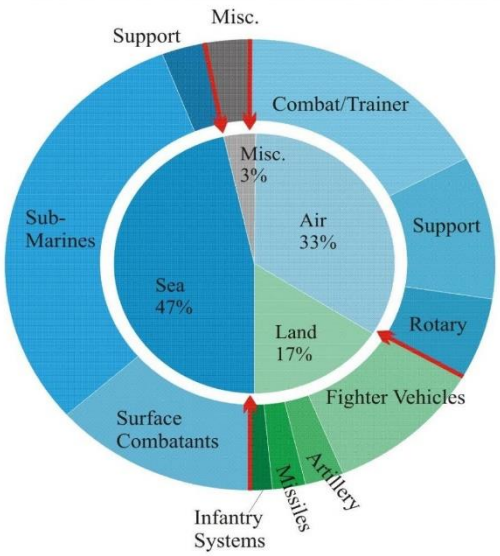
The favorable status afforded to public-sector enterprises has been eliminated. Instead, the public sector began helping and assisting private sector firms in the manufacture of some of the most complicated defensive weapons. The 41 ordnance factories were combined into seven Defence Production Public Sector Units, thus eliminating a 246-year-old legacy that was the root source of inefficiencies and delays.

The major initiatives for the indigenization of the country's defence sector are:

**Defence Production and Export Promotion Policy** (DPEPP)**:** launched by the government to promote indigenous production and exports in the Defence sector. The DPEPP plans to achieve the target of defence manufacturing of Rs1.8tn by 2025.

**Exhibit 17:**

**Defence Capital Spending and Spread in near Future**




**Air**
- Combat/Trainer: MMRCA, FGFA, Upgrade- Mirage, Mig-29, Jaguar engine, Basic trainers.
- Support: Transport aircraft, aerial tankers, LRMR, Phalcon AWACS, mini AWACS.
- Rotary: LUH, Multirole , attack, heavy lift, light

**Land**
- Fighter Vehicles: MBT- Arjun, T-90, Light tank, FICV
- Artillery: 155 mm Guns towed, ultralight, self-propelled, tracked guns, Mounted.
- Missiles: ATGM, CBU-105 sensor-fuzed weapons, short-to-medium-range SAM, Agni-V, MICA
- Infantry systems: FINSAS

**Sea**
- Surface Combatants: Aircraft Carrier: Projects- 71; 15B; 17A, 17B; 28A.
- Submarines: Nuclear: Arihant follow-on, Scorpene, project 75I, special, midget
- Support: Landing platform dock, landing ship tank, landing craft utility
- Misc.: Navy 3-D radar, radar-jamming integrated electronic warfare systems.

*Source: NBIE research, Indian Industries Association*

Under DPEPP, the government has identified four strategic areas of focus, including aerospace & defence components, defence manufacturing, defence R&D and defence exports. The policy aims to provide incentives to promote indigenous production, including tax incentives & subsidies and promote collaboration between Indian and foreign companies.

**Technology Development Fund (TDF):** Executed by DRDO, it will meet the Tri-Services and Defence Production requirements. The fund aims to promote collaboration between Indian and foreign companies and create a robust defence manufacturing ecosystem in the country. The funding under TDF scheme is Rs500mn per project. As per the latest updates, 163 technologies are being indigenised (under R&D), and Rs2.4bn has been sanctioned with 5,167 companies on board.

'**Dare To Dream' Scheme:** To improve India's defence and aerospace capabilities, the Defence Research and Development Organization (DRDO) gives startups and innovators a chance to tackle problems in new technological fields. To date, 52 people and 34 startups have been honoured at three **Dare To Dream** events.

**Strategic Partnership Model (SPM)**: Under the SPM, the government has identified four focus areas, including fighter aircraft, helicopters, submarines, and armoured fighting vehicles. The SPM aims to provide incentives to promote JVs and provide a platform for technology transfer. The government has set up a committee to review and select private sector companies for the strategic partnership model. The OEM selection must be based on the price and technology transfer alone.

**Positive Indigenization Lists:** The Indian government has formulated 5 Positive Indigenization Lists (PILs) to promote indigenization in the defence sector. These lists consist of 101 items the Indian armed forces require for their operational preparedness, which the domestic industry can manufacture. The first PIL was released in August 2020 and the second PIL in November 2020. The third PIL was released in February 2021 and the fourth in April 2021. The fifth PIL was released in December 2023. The fifth list consists of 98 items worth more than Rs 1.4 tn. These lists provide a significant opportunity for the Indian industry to participate in the production of defence equipment and contribute to the country's indigenization efforts.

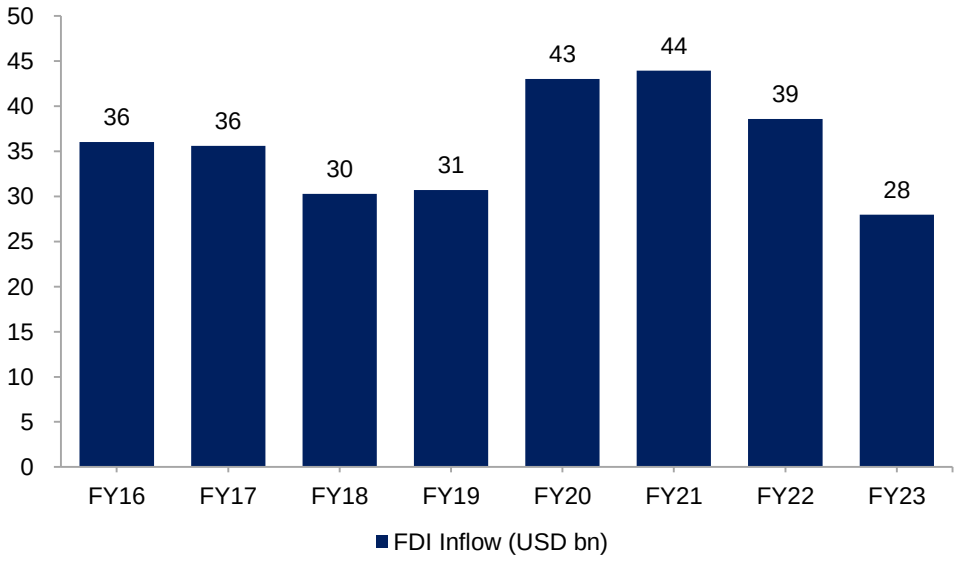
**Exhibit 18: Positive indigenization to boost domestic production**

| | First list | Second list | Third list | Fourth list |
|---|---|---|---|---|
| EOI | 0 | 0 | 46 | 5 |
| RFP for DA | 0 | 18 | 275 | 2 |
| Project Sanction Order | 14 | 6 | 78 | 3 |
| Prototype D&D | 30 | 58 | 222 | 2 |
| Commercial RFP | 4 | 0 | 7 | 0 |
| Trial | 31 | 8 | 35 | 0 |
| SO Placement | 0 | 0 | 0 | 0 |
| Other actions | 7 | 4 | 54 | 916 |
| Indigenised | 265 | 13 | 63 | 0 |
| **Total** | **351** | **107** | **780** | **928** |

*Source: Department of Defence Production, NBIE*

**Liberalization of FDI:** The government has also eased regulations and simplified procedures to attract foreign investors. The inclusion of FDI has not only provided a significant boost to the sector's growth but also helped transfer technology and knowledge.

**Exhibit 19: External flows to boost knowledge sharing**




*Source: RBI, CEIC, NBIE*

The enhanced FDI Policy FY2001 liberalized and allowed FDI under the automatic route up to 74% and up to 100% through the Government route, wherever it is likely to result in access to modern technology. The Union Cabinet approved a new Foreign Direct Investment (FDI) policy in

the defence sector, allowing FDI to expand from 49% to 74% with automatic approval route. The total FDI inflow as of FY23 was USD 28 bn.

**Mission DefSpace:** To encourage indigenization of essential military technology, strengthen national security, and make India self-reliant in the space sector, the Indian government unveiled Mission DefSpace during DefExpo in October 2022. Based on the needs of the military sector in the space domain, 75 challenges have been launched to generate new solutions. The mission's stated goals include bolstering the country's space-based surveillance system, improving communication in space, and developing capabilities in specialist technical areas. As a bonus, the programme would encourage local businesses, particularly micro, small, and medium-sized enterprises (MSMEs), to participate in military manufacturing and help with indigenization initiatives.

**Defence Innovation Fund and Innovations for Defence Excellence (iDEX) scheme:** DIF and iDEX aim to engage Industries, start-ups, innovators, institutes and academia involved in research by creating an ecosystem to enable technology development and foster innovation. The selected start-ups and innovators will be provided grants/funding, incubation facilities, and access to defence testing facilities to carry out R&D development potential for incorporation in the defence sector.

The iDEX scheme was launched in April 2018. IDEX partners with the Indian investor community to support and accelerate the growth of the defence ecosystem. This is also aimed at giving investors a unified view of opportunities and innovations in the defence sector. IDex Investors Hub (IIH) was launched during the Manthan at Aero-India 2023 to accelerate investment in the defence sector. Nine investors pledged Rs2bnn from 9 investors to augment the growth of the start-up ecosystem.

**SRIJAN indigenization portal:** launched in August 2020, SRIJAN is a single-window interface that connects the industry with the defence establishment and provides them with information about its required products. Over 26,000 defence items have been uploaded to the industry portal for indigenisation.

**Reforms in offset policy:** The policy mandates that foreign companies that win defence contracts in India should invest a minimum of 30% of the contract value in India's Defence sector. Investment can be made in areas such as R&D, defence production and aerospace. The new policy also assigns higher multipliers for investments made in MSMEs, technology transfers and exports.

**Exhibit 20: Defence Offsets**

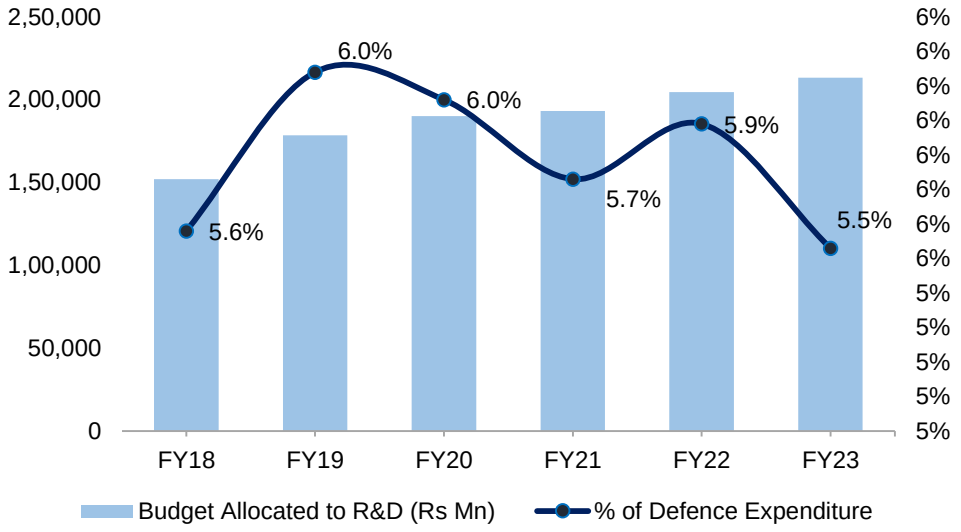
| Defence Offsets | FY20 | FY21 | FY22 | FY23 |
|---|---|---|---|---|
| Disposed | 1627 | 2733 | 4051 | 5395 |
| Incomplete/Clarifications sought | 790 | 602 | 442 | 263 |
| Under examination | 459 | 314 | 644 | 436 |

*Source: Open Government data (data.gov.in), NBIE*

**Defence Industrial Corridors:** These corridors are in Tamil Nadu, Uttar Pradesh, Maharashtra, Gujarat, Karnataka, and Andhra Pradesh. They aim to create a conducive environment for investment, develop infrastructure, and promote innovation and entrepreneurship in defence manufacturing.

**Research & Development:** Strengthening the local research and development infrastructure is necessary to decrease reliance on imports, as most vital components utilized in defensive equipment are still imported. Now, ~6% of the nation's defence budget goes into research and development, much below the 15% and 20% allocated by nations such as the US and China, respectively.

**Exhibit 21: R&D much lower compared to World average**




*Source : Open Government data (data.gov.in), NBIE*

**Collaboration with Higher Education Institutes:** The Indian Institutes of Technology (IITs) and the Defence Research and Development Organization (DRDO) are two of the country's most prestigious academic institutions, and they have played a key role in creating homegrown technology for military hardware. The few existing collaborations with IITs include:

- 'DRDO Industry Academia - Ramanujan Centre of Excellence (DIA-RCoE), between IIT Madras Centre of Excellence (CoE) and DRDO, has been set-up for focused research in areas of advanced technologies for defence and in the security sector.
- CoE in the field of Computational Fluid Dynamics (CFD) set up by Aeronautics Research & Development Board (AR & DB) at IISc, Bangalore as its hub center and the associate centres at IIT, Kanpur and IIT Mumbai. The focus of the CoE is to provide the CFD community an opportunity to come together and create the required synergy for developing this technology.
- CoE in Aerospace Systems Design & Engineering setup by AR&DB at IIT, Mumbai.
- CoE for Composite Structures and Smart Applications sanctioned by AR&DB at NAL, Bangalore as its hub center and its associate centers IISC, Bangalore, IIT, Kanpur and IIT, Kharagpur. The CoE has been created for activities relating to design & confirmation of composite structures, characterization of required materials and the technique for analyzing defects, life evaluation etc.
- Directorate of Extramural Research & Intellectual Property Rights (DER&IPR) is establishing Advance Technology Centres/CoE at premier Institutes and Universities for research in cutting edge technologies.
- IIT Jodhpur has set up a DRDO-Industry-Academia Centre of Excellence.

**Critical Technologies:** Critical and emerging technology development, including AI, unmanned systems, and cyber security, is another area that requires attention. India must cut back on its reliance on foreign suppliers while simultaneously investing in developing indigenous technology to modernise its military forces, increase national security, and improve the efficacy of defence equipment.

**Artificial Intelligence (AI):** DRDO's Centre for Artificial Intelligence and Robotics (CAIR) is dedicated to researching and developing AI systems for decision-making, reconnaissance, and surveillance. According to the Department of Defence Production, 40 AI projects have been finished as of April 30, 2022, and more are scheduled to be completed by March 20, 2024.

**Quantum Technologies**: India has launched a National Mission on Quantum Technologies and Applications (NM-QTA) with an initial corpus of US$1.1bn to develop quantum communication, computing and cryptography.

- **Cognitive Technologies:** DRDO is researching cognitive technologies to improve human-machine interactions in complex defence systems, enhancing situational awareness and decision-making capabilities.
- **Stealth and Anti-Stealth Technologies**: India is working on projects like the Advanced Medium Combat Aircraft (AMCA), incorporating stealth technology to evade enemy radar detection. Additionally, the DRDO is developing anti-stealth technology to counter adversaries' stealth capabilities.
- **Robotics**: DRDO's Centre for Robotics and Unmanned Systems (CRUS) focuses on the development of ground and aerial robotic systems for various applications, including surveillance, search and rescue, and explosive ordnance disposal.

**Skilled Workforce:** The Aerospace and Aviation Sector Skill Council (AASSC) aims to train around 600,000 personnel by 2035, addressing the skill gap in the defence industry. The Defence Offset Policy also mandates the transfer of skills and technology to Indian companies, further strengthening the skilled workforce. Investing in skilling will enable India to develop a robust defence manufacturing ecosystem.

**Testing and Evaluation:** DRDO's laboratories are equipped with cutting-edge infrastructure, including 'Test Facilities'. Indian private industries involved in defence manufacturing, including those participating in the 'Make in India' initiative, can now access these 'Test Facilities' on a fee basis.

**Infrastructure and Logistics:** The Indian government needs to invest in developing infrastructure, such as roads, railways, and ports, to provide efficient logistics support for the defence industry. There has been an investment of Rs24.2bn in Uttar Pradesh Defence Industrial Corridor (UPDIC) and Rs38.6bn in Tamil Nadu Defence Industrial Corridor (TNDIC) (MoUs and infrastructure development).

**The Negative Lists**

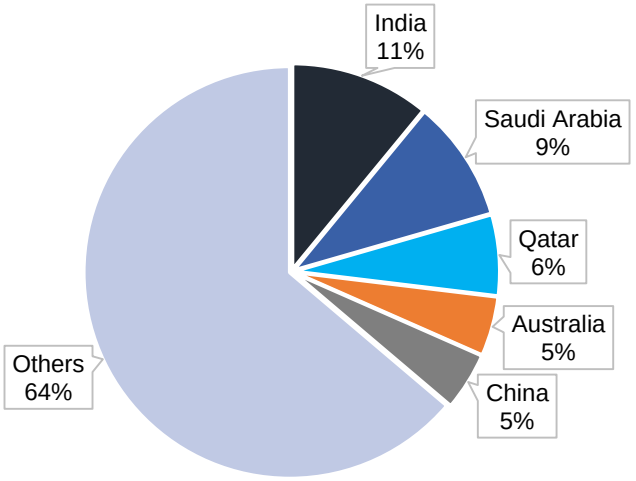
On 7th April, 2022, Defence Minister Rajnath Singh announced the third Negative List. The MoD and the Department of Military Affairs (DMA) notified the import ban on defence articles under the 3rd Negative List, which will be indigenously manufactured between December 2022 and December 2027. The third negative list contains 101 defence articles, including Sensors, Complex Systems, Naval Utility Helicopters, Lightweight Tanks, Anti-tank Guns, Medium Altitude Long Range Unmanned Aerial Vehicle (MALE UAV), Loitering Munitions, High Endurance Autonomous Underwater Vehicles and other weapons systems. The import ban will help Indian industry gather orders worth Rs2.1 tn in the next 5-7 years.

The first two Negative Lists were released in August 2020 and March 2021, respectively. The Ministry of Defence put 101 products on the initial list for an import restriction, which would take effect gradually from December 2020 to December 2024. The second list includes 108 products for an import ban that will be imposed between December 2021 and December 2025. With the introduction of the third negative list, domestic suppliers would embargo and create a total of 310 defence goods.

**Drivers behind Indigenization Lists**

India has been one of the largest importers of arms in the last three decades. India's arms imports declined by 21% between 2012–16 and 2017–22 after continuously rising since 1991. SIPRI's Trend Indicator Value (TIV) shows that India's arms imports declined from USD19.4bn to USD15.4bn in the last five years. However, despite this, India remained the largest arms importer, accounting for 11% of the total global arms imports during 2017–2022.

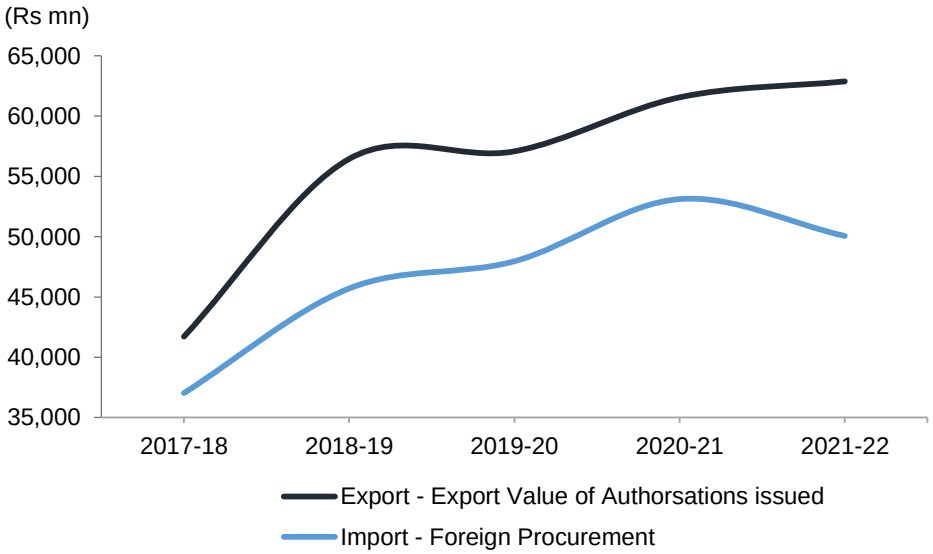
**Exhibit 22: India: Continue to remain the largest importer of military goods**




*Source: SIPRI 2023, NBIE*

India is striving to cut down defence imports and promote exports of defence equipment made by the domestic industry. The draft Defence Production and Export Promotion Policy 2020 has set an ambitious goal to achieve a defence manufacturing industry with USD25bn turnover by 2025, including the export of military hardware worth USD5bn.

**Exhibit 23: Defence Import/Export Procurement from 2017-18 to 2021-22**




*Source: Open Government data (data.gov.in), NBIE*

India was the 23rd biggest arms exporter in 2017–2018. It showed a growth rate of 119% in arms export between 2012–16 and 2017–21. India is now exporting arms to 85 countries and its major arms recipients are Myanmar (50%), Sri Lanka (21%) and Armenia (11%).

The Indian industry has been reaching out to many countries, including in Latin America for instance, to showcase its arms for export and for possible co-production and co-development. India has signed a US$375mn contract with the Philippines to export three batteries of BrahMos supersonic cruise missiles in January 2022. With this success, India is expecting some more big-ticket contracts from countries like South Africa, Saudi Arabia, Vietnam, Indonesia and other South-East Asian countries. Nine countries from Africa and South-East Asia have shown interest in the acquisition of DRDO-made Akash missile system.

Similarly, several countries including the US, Argentina, Philippines, Australia, Egypt and Indonesia have expressed interest in the Light Combat Aircraft (LCA) Tejas, whereas Royal Malaysian Air Force has already shortlisted LCA Tejas for its acquisition programme.

**Caution against history repeating.**

Another major reason for releasing a negative list or banning the procurement of 'off-the-shelf' defence equipment is concerns over breaches of technical data. Most arms are technologically advanced and software-enabled, which can easily be controlled and manipulated and could lead to data breaches. While announcing the third negative list, Rajnath Singh gave reference to the US' harsh sanctions on Chinese tech giant Huawei against its role in stealing data and breaching US national security.

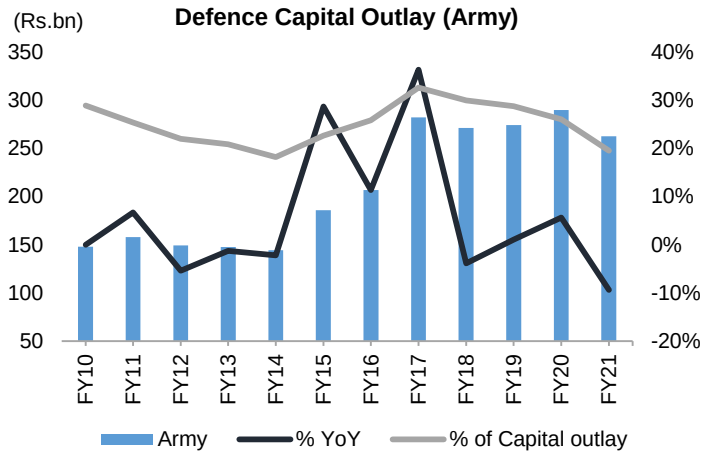
In 2011, thousands of pages of technical details of India's Scorpene submarines were leaked. In 2016, The Australian reported that documents on the entire submarine structure, Torpedo-launch system, communication and navigation system, under and above-water sensors and combat management system were leaked by the officials of Scorpene submarine contractor, DCNS. India had signed a US$3bn deal with French shipbuilder DCNS in 2005, to assemble and build six Scorpene class submarines in India indigenously.

**India to become USD2.5 tn global defence and aerospace market by 2030**

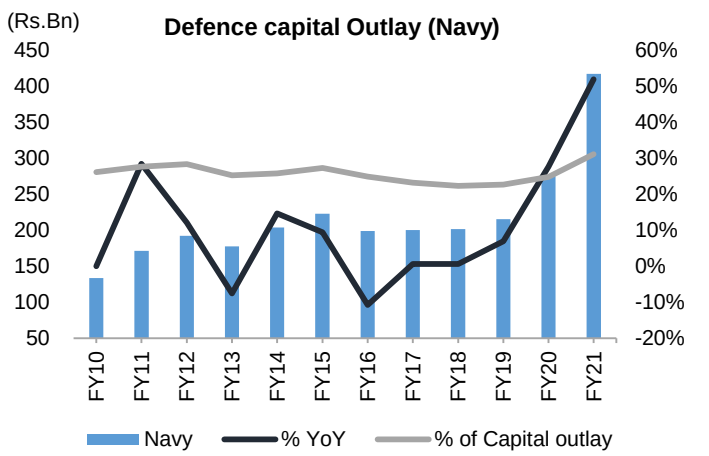
Every global security crisis creates opportunities. The US defence industry became the world's No.1 during World War-II by investing USD2.7bn. The war effort created an industry worth several trillion dollars in a few decades. Russia-Ukraine war, recent border challenges, and the desire to indigenise have created a similar opportunity for India. While India's defence ordnance factories and DPSUs employ about 1.5 lakh people and generate Rs450 bn or US$5bn-plus revenue, the US defence and aerospace industry employs 25 lakh people, 2% of the country's labour force and 18% of its manufacturing labour force. The US industry exports equipment worth USD150bn and pays USD60bn tax annually.

Until 2030, the Indian government is expected to spend 25% of its budget, or Rs1.5 trillion per year, on military modernization. The capital budget for defence modernization and infrastructure development in FY24 is USD 70 bn. Domestic enterprises will get 75%, or around USD 53 bn, as part of the government's indigenization initiative.

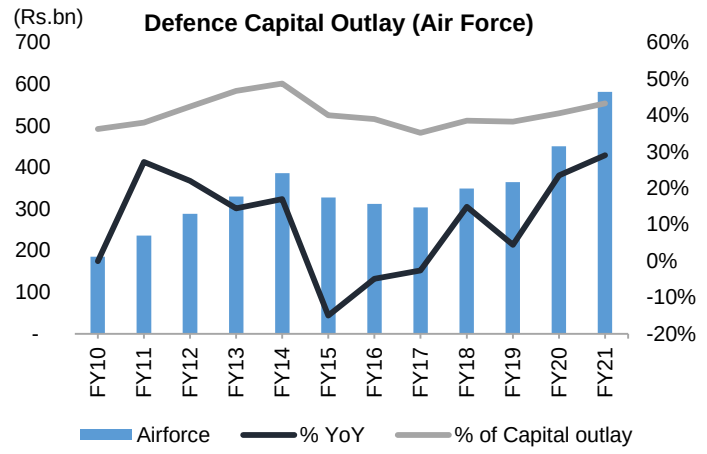
**Exhibit 24: Defence capital outlay**



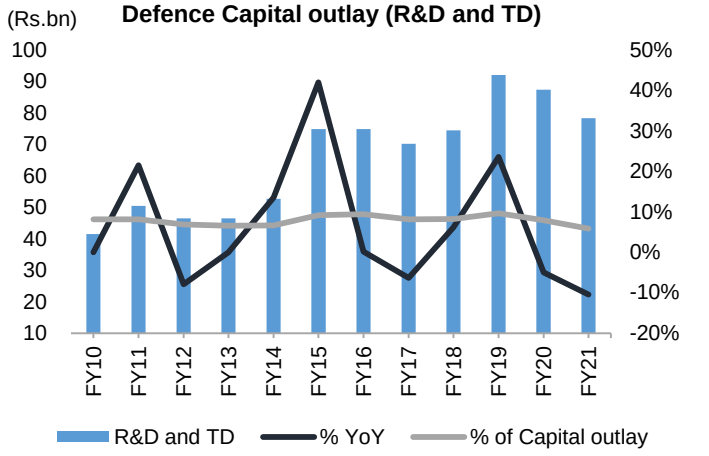

*Source: MOD, NBIE*




*Source: MOD, NBIE*




*Source: MOD, NBIE*




*Source: MOD, NBIE*

The army has a long list of foreign origin equipment that has become obsolete and is running over 90 modernization projects worth over Rs1.4tn. Against the ideal ratio of 1/3 - 68% of the equipment is in vintage category, 24% in current category and 8% in state-of-the-art category. The 15-year indigenization plan (2015-30) of Indian Navy envisages an increase in fleet size from 150 to 200 by 2027. IAF's 'Indigenization Roadmap (2016-2025)' expects capital acquisition projects worth US$33bn (Rs2.5 tn).

**Exhibit 25: India Fire Power**

| AIRPOWER | | |
|---|---|---|
| | **Stock** | **Readiness** |
| Fighters | 577 | 433 |
| Attack types | 130 | 98 |
| Trainers | 353 | 265 |
| Helicopters | 807 | 605 |
| Tanker Fleet | 6 | 5 |
| Special-Mission | 73 | 55 |
| Attack Helicopters | 36 | 27 |
| Transports (Fixed Wing) | 254 | 191 |
| **Total** | **2,236** | **1,679** |
| **LAND FORCES** | | |
| | **Stock** | **Readiness** |
| Tanks | 4,614 | 3,461 |
| Vehicles | 1,00,882 | 75,662 |
| Self-propelled artillery | 100 | 75 |
| Towed artillery | 3,311 | 2,483 |
| MLRS (Rocket artillery) | 1,500 | 1,125 |
| **Total** | **1,10,407** | **82,806** |
| **NAVAL FORCES** | | |
| | **Stock** | |
| Aircraft carriers | 2 | |
| Helicopter carriers | 0 | |
| Destroyers | 11 | |
| Frigates | 12 | |
| Corvettes | 19 | |
| Submarines | 18 | |
| Patrol vessels | 138 | |
| **Total** | **200** | |

*Source: Defence Forces, NBIE*

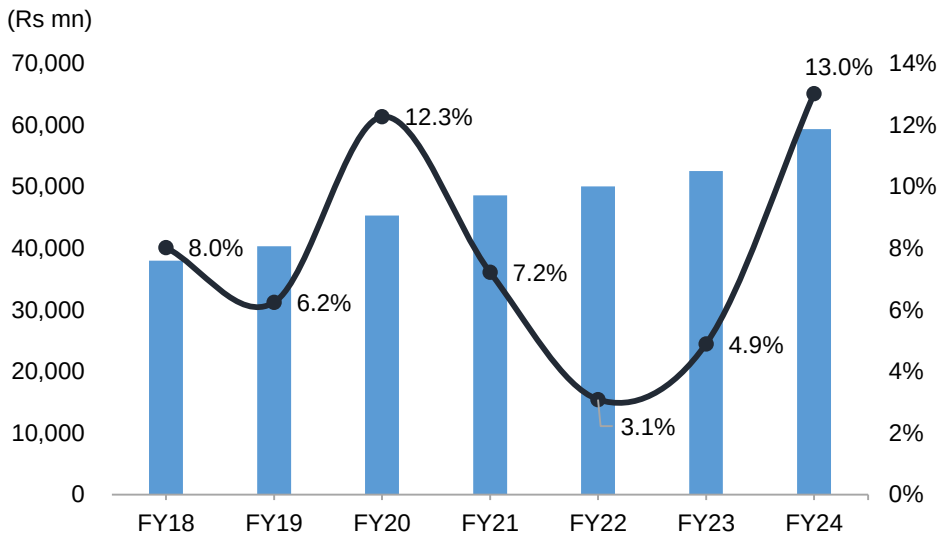
With at least 25% of the Rs10.5 Tn pie earmarked for the private sector, established private players such as Tata, L&T, Mahindra, Godrej, Bharat Forge and AdaniDefence are roping in global technology leaders as partners and building capabilities to tap not only Indian but also world markets.

India's Defence industry is well on its path to make high-end products such as tanks, armoured vehicles, fighter aircraft, helicopters, warships, submarines, missiles, electronic equipment, special alloys, special purpose steels and a wide variety of ammunition. The country is witnessing partnerships among legacy players, MSMEs, start-ups, the DRDO, DPSUs and the Army Design Bureau to make India a defence production hub.

**Opportunities abound for the industry**

Domestic procurement climbed to 68% in FY22. FY24 target is 75%. The number is projected to rise further in FY24-30 due to the ban on import of more products. Union Budget 2023 increased allocation for defence by 13% to Rs5.9 tn. This allows India to build a flourishing defence industry for the world.

**Exhibit 26: Union Budget 2023 allocation for defence increase at CAGR of 13%**

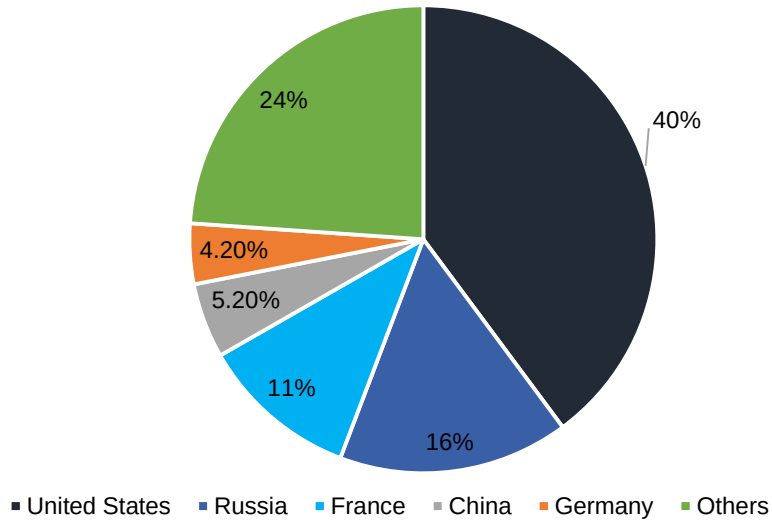



*Source: Union Budget, NBIE*

## Global Opportunity

The global defence market is expected to reach USD 581.8 bn by 2026, growing at an 8.2% CAGR between FY23 and FY26, from USD474.7 bn in 2021 and USD513.57 bn in 2022. The amount rises to USD2.5 tn when military aerospace applications are incorporated. Such a scenario would place India in direct competition with the largest armament exporters globally. United States (39% of global exports), Russia (19%), France (11%), China (4.6%), and Germany (4.5%) are included on the list.

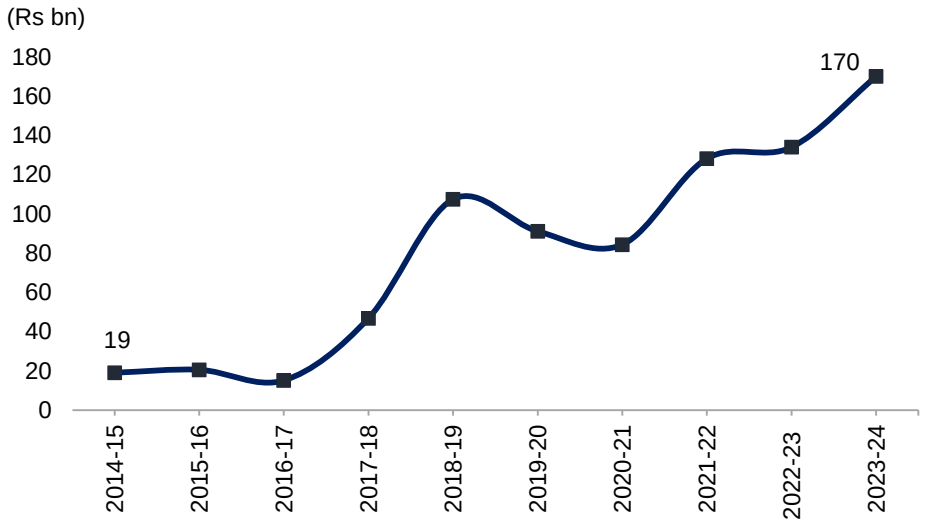
**Exhibit 27: World's Top 5 Arms Exporters for 2018-2022**




*Source: SIPRI, NBIE*

Any 'Made in India' equipment bought by Indian defence forces can be sold anywhere. Its defence exports, which ranged between Rs8bn and Rs13bn until 2015, surged to Rs140bn in FY22 and are set to touch Rs170bn in FY23.

**Exhibit 28: Value of Defence Export**




*Source: SIPRI, NBIE*

**The Take-Off**

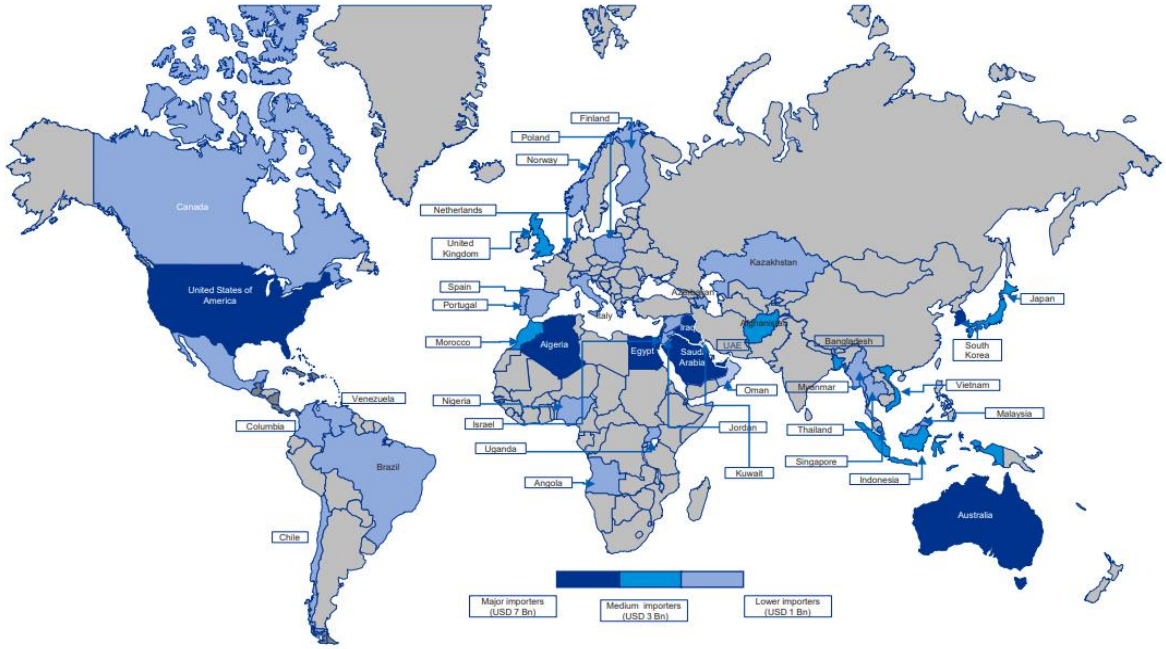
- The biggest development since India decided to allow the private sector in defence was the recent collaboration between Tata Advanced Systems and Airbus DS for manufacturing and assembling C-295 medium-lift tactical transport aircraft. The Rs219.3 bn contract will involve Tata Advanced Systems producing 40 fly-away C-295 aircraft and providing MRO (Maintenance, Repair, and Operations) support and service for the IAF's 56 aircraft. The group consolidates aerospace and defence capabilities under Tata Aerospace & Defence (Tata A&D) to leverage the upcoming opportunities.

**Some big orders have already been awarded.**

- Garden Reach Shipbuilders & Engineers and partner L&T are constructing eight anti-submarine shallow-water craft as part of a Rs63.1mn order.
- Cochin Shipyard is executing a similar deal. HAL is making 83 Mk1A fighter jets as part of a Rs480bn MoD order apart from 12 light utility helicopters for Rs15bn.
- L&T is making two multi-purpose naval vessels for Rs8.9bn and 41 modular bridges worth Rs25.6bn. It is also expecting orders for K-9 Vajra artillery guns and in-house designed submarines.
- Bharat Forge's order book, mainly guns and mounted vehicles, is Rs20bn-plus.
- The Advanced Towed Artillery Gun System (ATAGS) was developed by DRDO with Bharat Forge and Tata Advanced Systems as initial partners. The army will procure 150 ATAGS forRs33.7bn.
- Another legacy major Mahindra Defence Systems is executing a Rs10.6bn order from the army for 1,300 light specialist combat vehicles and a Rs13.5bn order from the navy for integrated anti-submarine warfare defence suite.
- Philippines signed a USD375mn deal with BrahMos Aerospace for shore-based anti-ship variant of BrahMos supersonic cruise missile. It was the first export order for the missile, developed by India and Russia.
- Bharat Forge's subsidiary, Kalyani Strategic Systems, bagged an export order worth USD155mn for 155mm artillery guns.
- L&T got a contract for supplying Teevra 40mm guns to the Indonesian Navy. A few months before that, Armenia signed a USD250mn contract for Pinaka missiles, made by DPSUs such as Bharat Dynamics and private players like Tata Advanced Systems and L&T.

- The top three African countries to import Made-in-India arms between 2017 and 2022 were Seychelles, Mauritius and Mozambique.
- Although India's current arms supply to Africa accounts for ~15% of its total defence exports, there is potential for further growth, given the rising interest shown by several African countries and the growing capabilities of the Indian defence industry.

**Exhibit 29: Key region/geographies for defence exports**




*Source: KPMG, NBIE*

**Global Icons focus on India**

Global players are also looking at working with Indian defence forces and private players. BAE Systems, which has got a USD542mn contract to provide 145 M777 ultra-lightweight howitzers to the army, has tied up with PTC Industries to make titanium castings. Collins Aerospace, a part of US-based Raytheon Technologies, one of the world's largest suppliers of aerospace and defence products, completed 25 years of manufacturing in India.

Key Foreign Investors:

- Airbus (France)
- BAE India Systems (UK)
- Pilatus (Switzerland)
- Lockheed Martin (USA)
- Boeing India (USA)
- Raytheon (USA)
- Israel Aerospace Industries (Israel)
- Rafael Advanced Defence Systems Ltd. (Israel)
- Dassault Aviation SA (France)

**Indian Agencies:**

- Department of Defence Production, Ministry of Defence
- Department for Promotion of Industry & Internal Trade, Ministry of Commerce & Industry, Government of India
- Department of Commerce, Ministry of Commerce & Industry, Government of India
- Defence and Strategic Industries Association of India
- Border Roads Organization
- Defence Investor Cell, Ministry of Defence
- DRDO

## The Trickle-Down Effect

The race is not limited to missiles, tanks, ships and fighter jets. Soldiers require a range of equipment right from helmets, suits and night vision cameras to advanced sleeping bags. Defence electronics is a huge opportunity. One of the beneficiaries is Centum Electronics, which provides electronics manufacturing and engineering R&D services and earns 44% revenue from defence modules and sub-systems.

Defence and aerospace electronics player Data Patterns grew revenue by 33% annually to Rs3.1bn in FY22. Most of its Rs4.8bn order book comprises radars and electronic locks. It is doubling capacity at its facility in Chennai in expectation of Rs20-30bn order, largely for radars, electronic warfare systems and next-gen ground receivers.

**Exhibit 30: Defence Electronics Increases at CAGR of 37% from 2016 to 2022**


*Source: Defence and Space market report, NBIE*

**The Coming MSME Boom**

Over 12,000 MSMEs operate in India's defence sector. The Centre funds them through iDEX, set up by Defence Innovation Organization which, in turn, was founded by HAL and BEL to fund innovation in the sector. iDEX has spent Rs 5bn on nine companies till date. The Army Design Bureau, Indigenization and Innovation Organization and Directorate Of Aerospace Design guide these start-ups.

The biggies are also hand holding MSMEs. Boeing, present in India for over eight decades, spends over USD1bn annually to procure from a network of over 300 Indian partners. It is by far the largest foreign original equipment maker in terms of sourcing from India. Over 25% of our suppliers from India are MSMEs.

| Legacy players | Emerging companies | Ancillary Specialists |
|---|---|---|
| **TATA**<br>Transport aircraft, aero parts, artillery guns, combat vehicles, UAVs, Radars, electronics, communication systems; 5-6 companies, now consolidating as TATA A&D. | **Adani Aerospace &Defence**<br>Building capabilities in UAVs, ground systems, missiles, kamikaze drones, arms and ammunitions in over 20 locations. | **Centum Electronics**<br>Defence electronics specialists with over 45% of Rs 7.9 bn revenues (9MFY24) from defence; order book in excess of Rs. 14.9 bn |
| **L&T**<br>Submarines, missiles, artillery guns, land/naval weapons, radars, air defence systems. In 9MFY24, had Rs, 46.1bn order book in defence | **Rangsons Defence & Aerospace**<br>Specialist in satcom, airborne thermal management, aviation tubes, hoses, and ducts. | **Paras defence Space & Technologies**<br>Specialist in defence and space optics, defence electronics and heavy engineering; had Rs, 3bn order book in FY24 |
| **Mahindra**<br>Armoured and defence vehicles, battle platforms, underwater warfare equipment, radars, surveillance equipment, aerospace solutions, lead company Mahindra defence systems revenues were Rs, 4.2bn in FY22; has Rs30bn+ orderbook | **Reliance naval defence& Engineering**<br>One of India's largest private shipyards, earlier owned by Anil Ambani Group and now run by Hazel – Swan Energy consortium. | **Apollo Micro systems**<br>Customized electronics and electro – mechanical solutions player with an order book of Rs. 3.4 bn as on Feb' 24 |
| **Godrej & Boyce**<br>Capabilities in defence and space missions right from rockets to missiles and associated systems and engines; supplied 700 water – tight doors and forklifts for INS Vikrant | **IdeaForge Technologies**<br>One of India's leading drone makers with Rs. 1.8bn of order book as on Dec'23 | **Astra Microwave products**<br>High-end sub-system specialist in radio frequency and microwave systems uses in defence& space, mining & telecom; order book of Rs. 250bn as on Feb'24; revenues of Rs. 9bn FY24 |
| **Bharat Forge (Kalyani)**<br>Expertise in artillery guns, armoured vehicles, ammunition, defence electronics and small arms, order book in excess of Rs. 20 bn in Q3 FY24 | **Data Patterns (India) Ltd**<br>Satellites, electronic warfare & communications specialist with Rs 3.3bn revenue and order book in excess of Rs. 9.6bn as on 9M24 | **Zen Technologies**<br>Specialist in defence training solutions, drones and anti- drones with Rs 84.3mn revenues and order book in excess of Rs. 6.3bn as on 3QFY24 |
| **MKU**<br>Largest maker of fiberglass helmets, snow boots, bullet-proof jackets, soldier optronics, and night vision solutions; has supplied products for 3 mn+ soldiers in over 100 countries | | **New space research & technologies**<br>Start- up specialist in UAVs, robotics, AI modules, augmented & virtual reality simulations; order book of Rs. 29.6bn as on Dec'23 |
| **BEL**<br>Radars and fire Control Systems, Missile Systems, Communication and C4I systems, Electronic Warfare & Avionics, Naval Systems & Antisubmarine Warfare Systems, Electro Optics, Tank Electronics & Gun Upgrades | | |
| **BEML**<br>Heavy earthmoving equipment catering to the mining and construction industry, vehicles for defence forces and coaches for the metro and Indian Railways | | |
| **Mazagon Dock Shipbuilders Ltd** Cargo & passenger ships, supply vessels, water tankers, tugs, dredgers, fishing trawlers, barges & borders | | |
| **Hindustan Aeronautics Ltd**<br>Manufacture of Aircraft and Helicopters and Repair, Maintenance of Aircraft and Helicopters. | | |
| **Bharat Dynamics Ltd**<br>Manufacturing of guided missiles and allied defence equipments | | |

## Policy: Where It Began

The indigenization wave started 5-6 years ago when the Defence Ministry worked on a presentation for Prime Minister Narendra Modi on the urgent need to modernize armed forces with focus on Make in India and private sector participation. It was realized that private players were important, and those had to come from the army, navy and air force, which procured ammunition and other items to the tune of Rs 1.5 tn every year. Out of this, 50-60% was imported.

But the biggest step to bring the vision to fruition was import ban on major products such as 410 different types of weapons and platforms, including lightweight tanks, naval utility helicopters, artillery guns, missiles, destroyers, ship-borne cruise missiles, light combat aircraft, light transport aircraft, long-range land-attack cruise missiles, basic trainer aircraft and multi-barrel rocket launchers, to name a few. The 'Positive Indigenization Lists' for DPSUs also helped.

This was followed by decisions such as simplification of industrial licensing process, allowing 100% FDI under automatic route, simplification of approvals and processes and the launch of iDEX and indigenization portal Srijan. The government also reformed the offset policy with thrust on attracting investments and technology. Further, DRDO identified nine areas for focused research — platforms, weapon systems, strategic systems, sensors & communication systems, space, cyber security, AI & robotics, material & devices and soldier support. The government also promised at least 25% procurement from the private sector.

Earlier, it was a closed ecosystem as the government was the producer and the user. Thus, innovation remained low. To push R&D in defence, 25% defence R&D budget will be used for R&D in private sector.

To get states on board too, two defence industrial corridors were set up, in Uttar Pradesh and Tamil Nadu, which have attracted investment commitments of Rs 240bn. Rs22.4bn and Rs38.5bn have already been invested in Uttar Pradesh Defence Industrial Corridor and Tamil Nadu Defence Industrial Corridor, respectively.

## Conclusion

The globe will be multipolar in the future, not unipolar or bipolar as it was during the Cold War. The supremacy of China and the US will be challenged by other powerful nations including the UK, Germany, France, and India. The US and its allies continue to have serious worries about some nations, including North Korea, Iran, and Russia. Iran is the most hostile country in the Middle East, undermining US commitments there, while Russia often creates problems for the US. Finally, North Korea's WMD programmes pose a constant threat to the US.

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# Company Section

# Bharat Dynamics Ltd

Defence | Initiating Coverage

**BUY**

**CMP: Rs1,759 | Target Price (TP): Rs2,045 | Upside: 16%**

**April 5, 2024**

## Execution picking-up; Orders pipeline remains strong…

**Key points:**

- Bharat Dynamics (BDL), one of the leading defence PSUs in India, is engaged in the manufacture of surface to air missiles (SAMs), anti-tank guided missiles (ATGMs), air to air missiles (AAMs), underwater weapons, launchers, countermeasures and test equipments Additionally, it has conceptualised and manufactured the Countermeasure Dispensing System (CMDS) for the military.
- The company's order book as of Jan'24 stood at Rs200.7bn (7x TTM revenue), all of which is expected to fructify in the coming 4-5 years. BDL's portfolio of guided missiles accounts for over 55% of the projected US$25bn guided missile and torpedo market in India by FY26. Such large order book provides headroom for growth over the next 3-4 years. Going ahead, we expect execution to pick up in H2FY24 and FY25E.
- BDL has been collaborating with DRDO and foreign Original Equipment Manufacturers (OEMs) to produce and supply the Indian Armed Forces with a diverse range of missiles and allied equipment. The company develops novel products and enhances existing ones to satisfy the demands of its clientele. In light of India's military modernization, the market for guided missiles and torpedoes is anticipated to expand substantially. As the primary provider of guided missiles and torpedoes to the Indian Armed Forces, BDL is expected to receive a substantial influx of orders.
- **Views & Valuation:** We anticipate a revenue/EBITDA/PAT CAGR of 39%/42%/31% in FY24-26. Given the strong order book and revenue visibility, we we assign a higher multiple at 30x above +1 SD higher than the historical trend. We initiate a "BUY" with a target of Rs 2,045, valuing it at 30x March'26 EPS.

**Strong manufacturing capabilities:** Establishing a Seeker manufacturing facility and a Warhead manufacturing facility at BDL units enables the company to become a full-service provider of missiles and their subsystems. Additionally, the company is proactively engaged in indigenization initiatives to reduce dependence on imported components for essential goods. Rapid progress is being made in the construction of the forthcoming unit at Jhansi along the UP-Defence Corridor. This unit will produce 122mm GRAD rockets and propellants for a variety of next-generation ATGMs once it becomes operational.

**Establishing critical partnerships:** As part of the 'Make in India' initiative, BDL is also equipped to produce cutting-edge VSHORADS (Very Short Range Air Defence System) and Laser Beam Riding Missiles via a Transfer of Technology (ToT) arrangement with M/s Thales, UK. For prospective Al Tariq PGM Kit initiatives in India, notable organizations such as Barij Dynamics LLC ("Al Tariq"), Abu Dhabi, UAE and MBDA, France; M/s Dassault Aviation Pvt Ltd, France; M/s Thales, Belgium are involved. Furthermore, BDL and M/s Bultexpro Ltd., Bulgaria have agreed to manufacture 122mm GRAD BM ER and NON-ER rockets in India. To ensure the quality of its programs, BDL endeavors to acquire Green Channel certification from client inspection authorities in a systematic manner. One of the company's products has already been certified, and it will pursue certifications for additional products throughout the organization.

| | |
|---|---|
| Est Change | - |
| TP Change | - |
| Rating Change | - |

**Company Data and Valuation Summary**

| | |
|---|---|
| Reuters | BARA.BO |
| Bloomberg | BDL IN Equity |
| Market Cap (Rsbn / US$bn) | 322.4 / 3.9 |
| 52 Wk H / L (Rs) | 1,985 / 900 |
| ADTV-3M (mn) (Rs / US$) | 1,838.7 / 22.1 |
| Stock performance (%) 1M/6M/1yr | (4.1) / 79.6 / 78.3 |
| Nifty 50 performance (%) 1M/6M/1yr | 2.4 / 3.7 / 27.9 |

| Shareholding | 1QFY24 | 2QFY24 | 3QFY24 |
|---|---|---|---|
| Promoters | 74.9 | 74.9 | 74.9 |
| DIIs | 13.8 | 12.8 | 13.3 |
| FIIs | 3.4 | 3.1 | 3.1 |
| Others | 7.9 | 9.2 | 8.7 |
| Pro pledge | 0.0 | 0.0 | 0.0 |

| Top Shareholders | % of Company |
|---|---|
| HDFC Asset Management Co Ltd | 5.05 |
| Max Life Insurance Co Ltd | 2.33 |
| Life Insurance Corp of India | 1.01 |
| Canara Robeco Asset Management Co Ltd | 0.98 |

**Financial and Valuation Summary**

| Particulars (Rsmn) | FY23 | FY24E | FY25E | FY26E |
|---|---|---|---|---|
| Net Sales | 24,894 | 33,388 | 46,908 | 64,898 |
| *Growth YoY (%)* | *(11.6)* | *34.1* | *40.5* | *38.4* |
| EBITDA | 4,082 | 7,000 | 10,441 | 14,149 |
| *EBITDA margin (%)* | *16.4* | *21.0* | *22.3* | *21.8* |
| Adj. PAT | 3,522 | 7,282 | 9,814 | 12,573 |
| *Growth YoY (%)* | *(34.0)* | *106.8* | *34.8* | *28.1* |
| EPS (Rs) | 19.2 | 39.7 | 53.5 | 68.6 |
| *RoE (%)* | *11.3* | *21.4* | *25.6* | *28.5* |
| EV/EBITDA | 69.5 | 40.2 | 27.2 | 20.1 |
| P/E (x) | 91.5 | 44.3 | 32.8 | 25.6 |

*Source: Bloomberg, Company, Nirmal Bang Institutional Equities Research*

**Key Links :**

FY23 Annual Report | 3QFY24Result

*Please refer to the disclaimer towards the end of the document.*

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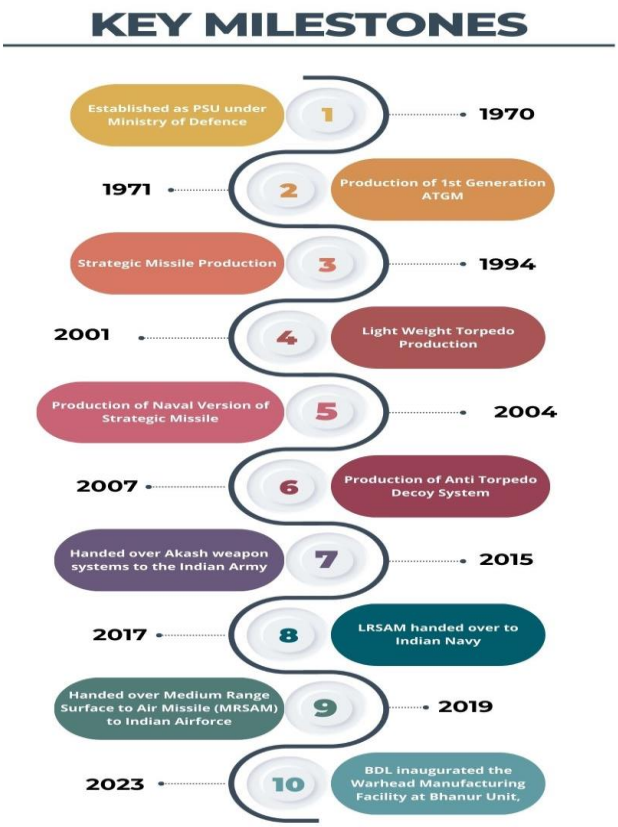
## Company background

BDL was incorporated on July 16, 1970, as a Defence Public Sector Undertaking (DPSU) under the Ministry of Defence, Government of India. BDL possesses state-of-the-art facilities for manufacturing and supplying Guided Missiles. The company offers a wide range of products to the Indian armed forces, including Surface-to-Air Missile weapon systems (SAM), Air-to-Air Missile weapon systems (AAM), Underwater Weapon Systems, Anti-Tank Guided Missiles (ATGMs), and Countermeasure Dispensing Systems (CMDS) for aircraft. Additionally, BDL has developed robust in-house R&D capabilities, primarily focused on Design and Engineering activities.

**Exhibit 1: Key Milestones**




*Source: Company, Nirmal Bang Institutional Equities Research*

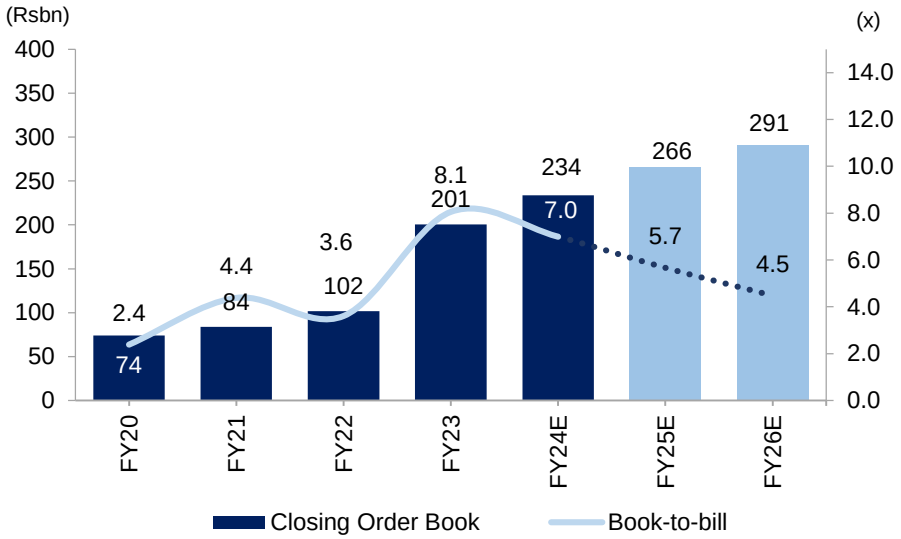
## Investment Argument:

**Principal provider of guided missile equipments to the Government of India (GOI):** BDL serves as the principal production agency in accordance with India's Integrated Guided Missile Development Programme (IGMDP), providing DRDO (Defence Research and Development Organisation) with SAMs (Surface-to-Air Missiles) and ATGMs (Anti-Tank Guided Missiles) of the next generation.

The organisation is the sole provider of services for guided missiles developed domestically, including the Akash surface-to-air and Konkur anti-tank guided missiles. BDL has been producing an extensive range of indigenously designed and developed underwater armaments and missiles with the assistance of DRDO. Its development of the Akash Weapon system, an indigenous surface-to-air missile, required the participation of numerous industry supply chain partners. BDL's Visakhapatnam Unit is where it produces heavy-weight and lightweight torpedoes that were designed and developed by the Naval Science & Technological Laboratory (NSTL) and DRDO, respectively. As planned, BDL is tasked with manufacturing the renowned 'Beyond Visual Range' Astra Weapon System for the Indian Armed Forces.

Over the past four years, GOI has contributed over 75% of its topline. GOI's emphasis on domestic production of guided weapon systems benefits the business, contributing to a robust order pipeline and revenue visibility. BDL has achieved a robust market position through its consistent order flow, which can be attributed to its robust vendor network, emphasis on indigenization (exceeding 90% for main missiles), and provision of product life cycle support and refurbishment services.

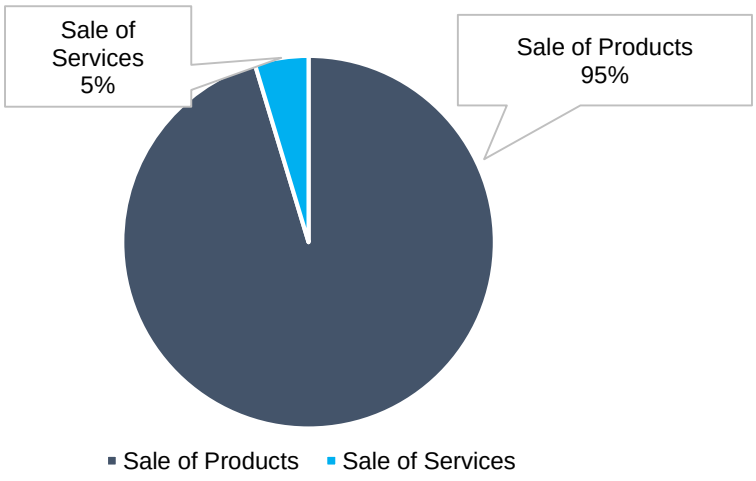
**Exhibit 2: Order book situation**




*Source: Company, Nirmal Bang Institutional Equities Research*

A robust growth pipeline and a healthy order book position provides robust growth visibility; Rs234bn is the estimated order backlog for the company (7x TTM revenue), which offers robust growth visibility. An assortment of SAM (Surface to Air missile) variants, including Akash NG, Quick Reaction (QRSAM), and Vertical Launched Short Range (VLSRSAM), ATGM (Anti-Tank Guided Missiles) such as Helina/Dhruvastra, Nag, MPATGM, Smart Anti-Airfield Weapon (SAAW), Astra MK2, torpedoes, and others, continue to be delivered through a robust orders pipeline, both domestically and internationally. The strong pipeline enhances confidence in the visibility of future development.

**Exhibit 3: Government order contribute 75% of the sale of product**




*Source: Company, Nirmal Bang Institutional Equities Research*

As of January 24, BDL has received new orders of Rs17.2 bn with a closing order book of Rs200.7bn. BDL handed over the first Radio Frequency (RF) Seeker of Akash–Next Generation Weapon System produced at BDLs newly commissioned State-of-the-art Seeker Facility Centre (SFC) to DRDO. It also received an ATGM supply order worth Rs 7.5 bn from the Indian Army. BDL received a supply order of an upgraded version of Akash Missiles worth about Rs.2.5 bn from the Army. It also received a supply order for LBRM worth about Rs.2.5bn and ULPGM for about Rs.1.1bn, and Limited Series Production clearance has been obtained from DRDO for the Astra Mark-I Missile System.

**Way forward.**

BDL has been making infrastructure investments, augmenting capacity, and expanding research and development endeavours, both internally and in collaboration with DRDO, to support a range of production and development programmes. BDL has additionally directed its efforts towards establishing numerous partnerships with international original equipment manufacturers (OEMs), encompassing collaborative development initiatives and domestic and international production for export markets. Amogha-III ATGM, drone-fired missiles and explosives, LBRM (Laser Beam Riding Missile), Mistral short-range missile system, ASRAAM (Advanced Short Range Air-to-Air Missile), SPIKE ER2, and other products and initiatives are currently in development.

**Research & Development**

BDL is actively investing in R&D activities both in-house and in association with DRDO for various development and production initiatives. In FY23, BDL spent Rs1.5bn on R&D, reflecting a 216% increase vs FY22. Due to recent changes in government policies allowing private companies to participate in defence contracts, significant competition has emerged for Defence PSUs. To overcome this challenge, BDL has increased its R&D expenditure to develop innovative products for its customers. In FY23, the company spent Rs1.52bn on R&D, representing 6.1% of its revenue and 31.5% of its PBT. The R&D expenditure increased by 216%. Introducing new products will enable BDL to diversify its offerings and mitigate product dependencies. BDL launched three new products during the Bandhan Ceremony at the Defence Expo 2022, and three new products were unveiled during the Aero India 2023 in Bengaluru. BDL is also actively engaged in the development of Artificial Intelligence-based products.

**Exhibit 4: Strong trend of R&D Expenditure**

| | FY21 | FY22 | FY23 | FY24 | FY25 | FY26 |
|---|---|---|---|---|---|---|
| **Sales Turnover** | **19,138** | **28,174** | **24,894** | **30,360** | **37,300** | **43,666** |
| **R&D expenditure** | **430** | **481** | **1,520** | **1,214** | **2,089** | **2,838** |
| *R&D YOY growth* | *-41.8%* | *11.9%* | *216.0%* | *-20.1%* | *72.0%* | *35.9%* |
| *R&D expenditure as % of Sales* | *2.2%* | *1.7%* | *6.1%* | *4.0%* | *5.6%* | *6.5%* |
| **PBT** | **3,409** | **7,099** | **4,818** | **9,698** | **14,179** | **16,122** |
| *R&D expenditure as % of PBT* | *12.6%* | *6.8%* | *31.5%* | *12.5%* | *14.7%* | *17.6%* |

*Source: Company, Nirmal Bang Institutional Equities Research*

**Exhibit 5: Export potential will play out in the mid – long term**

| Sales by Geography | FY21 | FY22 | FY23 | FY24 | FY25 | FY26 | FY24-FY26 |
|---|---|---|---|---|---|---|---|
| India | 17,692 | 28,144 | 23,920 | 29,145 | 35,621 | 41,483 | 19.3% |
| *% of total revenue* | *92.4%* | *99.9%* | *96.1%* | *96.0%* | *95.5%* | *95.0%* | - |
| Outside India | 1,445 | 30 | 974 | 1,214 | 1,678 | 2,183 | 34.1% |
| *% of total revenue* | *7.6%* | *0.1%* | *3.9%* | *4.0%* | *4.5%* | *5.0%* | - |
| **Total** | **19,138** | **28,174** | **24,894** | **30,360** | **37,300** | **43,666** | **19.9%** |

*Source: Company, Nirmal Bang Institutional Equities Research*

- In recent years, there has been a greater emphasis on increasing defence exports, decreasing imports, and reaching self-sufficiency. The Indian government has developed a defence export plan to help Defence Public Sector Undertakings (DPSUs) and commercial defence firms pursue overseas economic possibilities. India has set a target of selling defence equipment worth Rs350 bn (US$5 bn) by 2025, and defence exports have surged by 334% over the previous five years, reaching a record Rs 160 bn in FY23. Currently, India sells defence equipment to more than 85 nations.
- BDL has received orders from friendly foreign countries for products such as the Akash Weapon System, ATGMs, Air to Air Missile (Astra), Smart Anti-Airfield Weapon, Helina (Air-to-Surface Weapons), Light Weight Torpedo, Heavy Weight Torpedo (Underwater Weapons), Counter Measures Dispensing System, and Anti-Submarine Warfare Suite (Counter Measure Systems), among others. In FY23, BDL won its largest-ever export order for SAMs and ATGMs from friendly foreign governments, totaling US$255.4 mn and US$27 mn respectively.

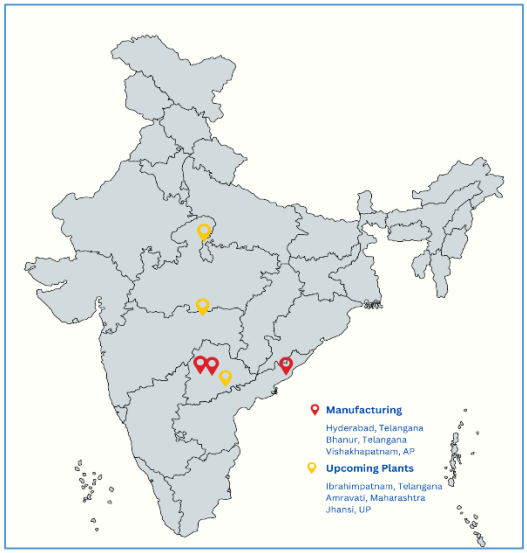
**Exhibit 6: Export order book situation**


*Source: Company, Nirmal Bang Institutional Equities Research*

As of January 24, BDL's overall export order book was at Rs25.8 bn, indicating its expanding performance in the foreign market. NBIE expects that BDL would prioritise the development of its own technology over depending on technology transfer (ToT) from international OEMs.

**Exhibit 7: Manufacturing Facilities**

| Locations | Products |
|---|---|
| Hyderabad, Telangana | Surface to Air Missile, Milan 2T ATGM |
| Bhanur, Telangana | Konkurs-M, Invar ATGMs |
| Vishakhapatnam, AP | Leight weight torpedoes, CMDS |
| **Upcoming Locations** | **Products** |
| Ibrahimpatnam, Telangana | Surface to Air Missile (SAMs) which including new generation Missiles. |
| Amravati, Maharashtra | Very Short Range Air Defence Missiles {VSHORADM) |
| Jhansi, UP | The Jhansi unit will be manufacturing Propulsion System which will be used in all Anti-Tank Guided missiles (ATGM). |




*Source: Company, Nirmal Bang Institutional Equities Research*

Headquartered in Hyderabad, BDL currently has three manufacturing plants: Telangana (Hyderabad and Bhanur) and Andhra Pradesh (Visakhapatnam). As part of its growth strategy, BDL is establishing three new units in Ibrahimpatnam (Telangana), Amravati (Maharashtra), and Jhansi (UP) to meet the expanding demands of the Armed Forces. As its activities are backward integrated, this plant will increase its potential to supply world-class military systems.

**Exhibit 8: BDL's Products**

| Surface to Air Missile/ Air to Air Missile | ATGMs | Torpedoes | Launchers | Counter-measures | Test Equipment |
|---|---|---|---|---|---|
| Akash Weapon System<br>Medium Range SAM<br>Astra Weapon System | Milan2T<br>Konkurs-M<br>INVAR | Light Weight Torpedoes<br>Heavy Weight Torpedoes | Launchers for Konkurs-M & MILAN 2T ATGMs | Counter Measures Dispensing Systems and Underwater decoys | Functional monitoring equipment for ATGMs & SAMs |

**Akash SAM**

**Long Range SAM ("LR SAM") and Medium Range SAM ("MR SAM")**

**Astra Weapon System**

**The Milan 2T ATGM**

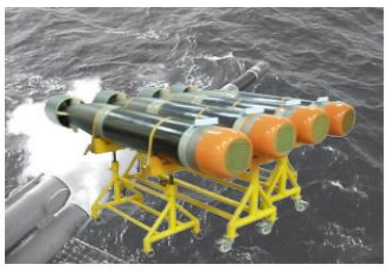
**The Konkurs – M ATGM**

**The INVAR (3 UBK 20) ATGM**

**CMDS**

**Anti Torpedo Decoy Launching System ("Anti Torpedo System")**

**Submarine Fired Decoy ("SFD"**



**Light weight Torpedo**

**Heavy weight Torpedo**

**Launchers for the Konkurs M ATGM and the Milan 2T ATGM**

**Test Equipments**

*Source: Company, Nirmal Bang Institutional Equities Research*

## Management Team

### Commodore A. Madhavarao (Retd.), CMD

After joining BDL in March 2020 as Executive Director, he is now Director (Technical) and Director (Production). His degrees include B. Tech in Electrical Engineering, ME in Electronics & Telecommunications, MSc in Defence Studies, MBA in Finance, and MMS. In the Indian Navy, Commodore Madhavarao participated in Kargil and Parakram.

### Shri Anurag Bajpai, Joint Secretary (DIP)

A Post Graduate in Economics, Financial Management and Mass Communication, has got international exposure in forestry, environment policy, energy, women empowerment and global governance in various countries.

### Shri U Raja Babu, Director General

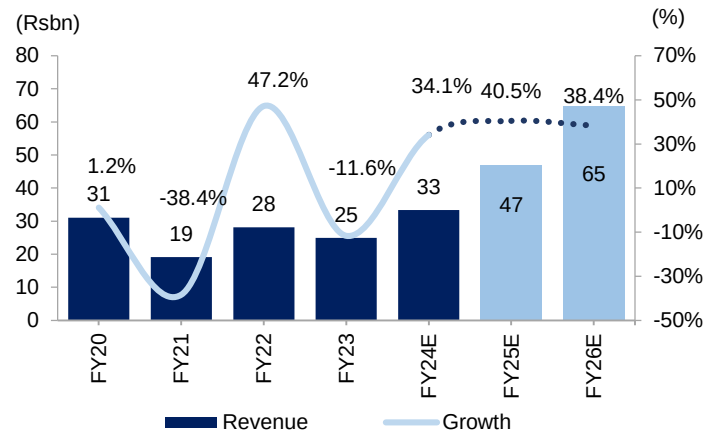
He started his career with the Indian Air Force in 1988 and subsequently joined DRDO in 1995. During his 35-year professional aerospace career, he worked on aircraft and helicopters and developed many missile systems.

**Strategic partnerships:**

- MoU with MBDA, France for manufacturing Mistral missiles in India for supply to the IAF.
- MoU with a start-up, i.e., M/s New Space Technologies, Bangaluru for product development, including integrating BDL payload(s) on the UAV platforms of M/s NRT for military applications, technical support, armament support and infrastructure support.
- An MoU with BHEL to jointly work on emerging opportunities in the Indian Defence and Aerospace market, especially the Space sector.
- An MoU with Raphe mPhibr Pvt Ltd, Noida, to collaborate on UAVs and launch systems for the ULPGM project.
- MoU with Dassault Aviation Pvt. Ltd., France for integrating BDL weapon systems like Astra and SAAW on Rafale aircraft for the Indian Armed Forces and future export markets.
- MoU with Thales Belgium S.A. and Thales India Pvt Ltd for setting up of manufacturing facilities for the Laser Guided Rocket and its major components in India, to be a part of Thales global supply chain for future requirements of Thales export markets besides the India market.
- MoU with BARIJ Dynamics LLC (“AL TARIQ”), Abu Dhabi, UAE, to co-operate in the manufacturing of PGM kits in India, both for India and export markets.
- MoU with BULTEXPRO LTD., Bulgaria, to set up manufacturing facilities for 122mm GRAD BM ER and non-ER rockets in India, including ToT.
- BDL has also entered into a Licencing Agreement for Transfer of Technology (LAToT) with Research Centre Imarat (RCI, DRDOLab) for the manufacturing of Ceramic Radomes (GELCAST Process).

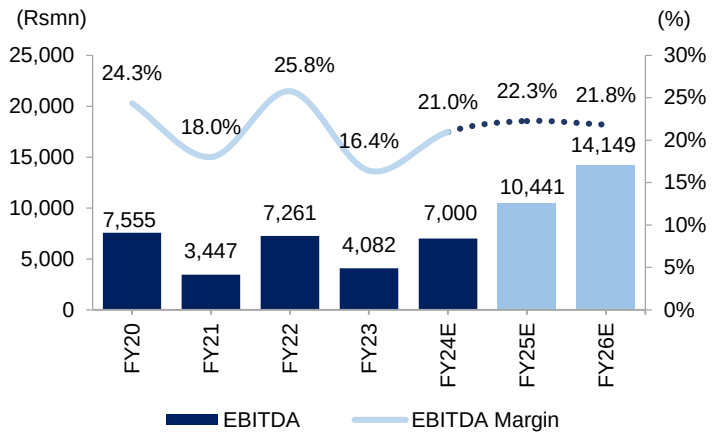
## BDL Key Performance Indicators

**Exhibit 9: Robust revenue visibility at 38% in FY24-26E**



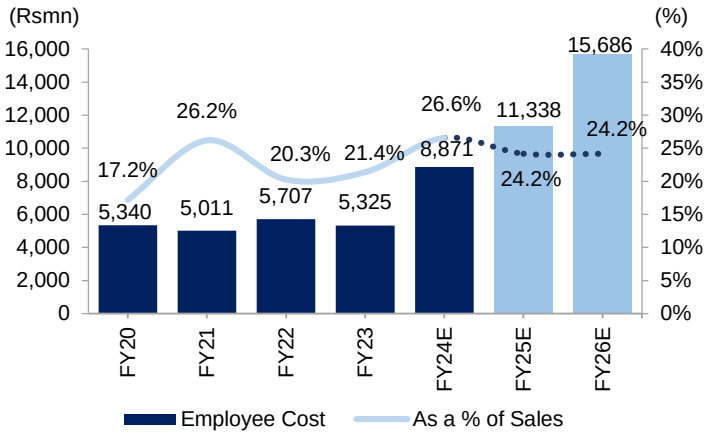

*Source: Company, Nirmal Bang Institutional Equities Research*

**Exhibit 10: Margin to remain stable at 20%+ levels**



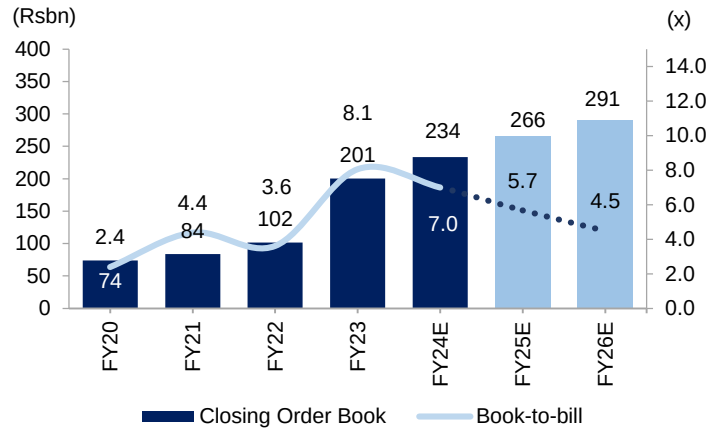

*Source: Company, Nirmal Bang Institutional Equities Research*

**Exhibit 11: Employee cost to remain stable 24%+ levels**



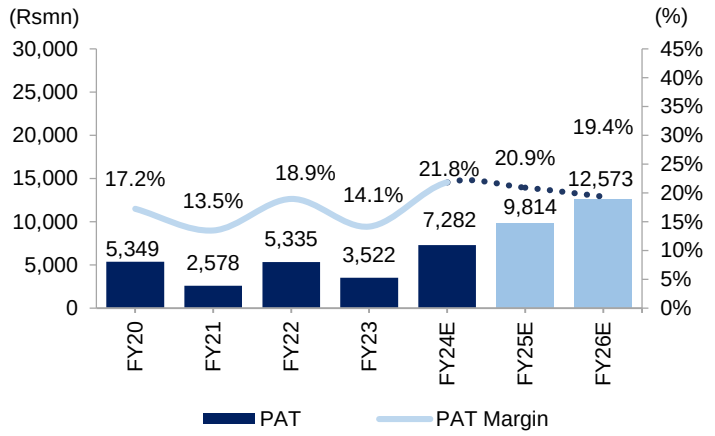

*Source: Company, Nirmal Bang Institutional Equities Research*

**Exhibit 12: Strong order book remains the key driver for revenue growth**



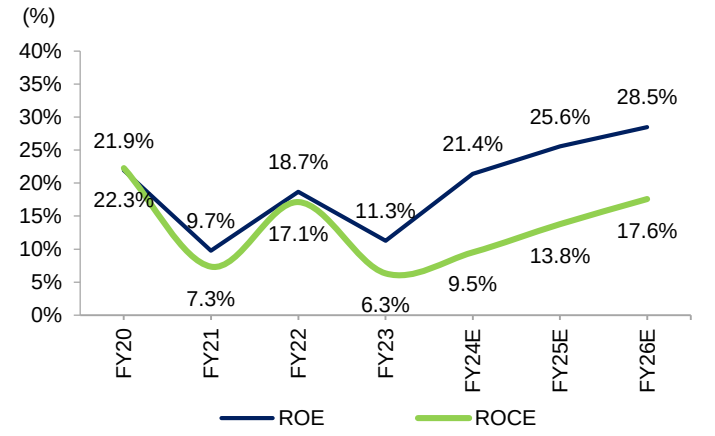

*Source: Company, Nirmal Bang Institutional Equities Research*

**Exhibit 13: PAT Margin stable at 20%+ in the forecast years**




*Source: Company, Nirmal Bang Institutional Equities Research*

**Exhibit 14: Return ratios to improve in FY26E**




*Source: Company, Nirmal Bang Institutional Equities Research*

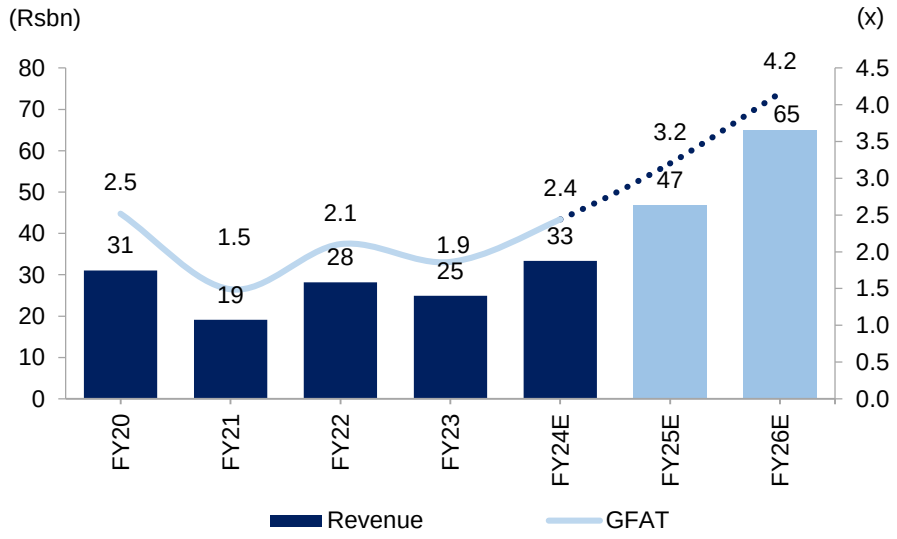
**Exhibit 15: Gradual decline in debtor days**

| Cash Conversion Cycle | FY21 | FY22 | FY23 | FY24E | FY25E | FY26E |
|---|---|---|---|---|---|---|
| Debtor Days | 63 | 41 | 36 | 40 | 38 | 36 |
| Inventory Days | 489 | 472 | 533 | 500 | 490 | 470 |
| Payable Days | 236 | 200 | 156 | 154 | 150 | 148 |
| **CCC** | **316** | **312** | **413** | **386** | **378** | **358** |

*Source: Company, Nirmal Bang Institutional Equities Research*

BDL anticipates the working capital cycle to reach 358 by FY26. Additionally, increasing manufacturing contract executions will shorten collection periods.

**Exhibit 16: Higher revenue to offset expansion plans**




*Source: Company, Nirmal Bang Institutional Equities Research*

We anticipate that BDL will maintain a capex of Rs 1bn in the anticipated years. GFAT to enhance with increased production and economies of scale will improve revenues and profitability.

## View and Valuation:

As of January 24, BDL's order book was at Rs200.7 bn. It will combine the order book with additional orders in various completion stages scheduled to be fulfilled in 4QFY24. BDL is in the process of converting incoming leads into orders.

BDL has partnered with various international and Indian corporations through Memorandums of Understanding, which will open up new possibilities for producing cutting-edge military systems in India that cater to domestic and foreign markets.

It has begun indigenizing previously imported components and subassemblies and has effectively indigenized 47 essential products during the last four years, resulting in considerable foreign exchange savings. With an average indigenization ratio of ~80-90%, import prices have dropped, allowing the firm to offer competitively priced products to the Indian Armed Forces.

We anticipate a revenue/EBITDA/PAT CAGR of 39%/42%/31% in FY24-26. Given the strong order book and revenue visibility, we assign a higher multiple at 30x above +1 SD higher than the historical trend. We initiate a "BUY" with a target of Rs 2,045, valuing it at 30x March'26 EPS.

**Exhibit 17: Valuation Summary**

| Particulars | (Rs mn) |
|---|---|
| March'26E EPS | 69 |
| Target multiple (x) | 30 |
| **Target price (Rs)** | **2,045** |
| CMP (Rs ) | 1,759 |
| **Upside / (downside) %** | **16%** |

*Source: Company, Nirmal Bang Institutional Equities Research*

## RISKS AND CONCERNS

**Major Concerns:**

The ongoing Russia-Ukraine war and conflicts in the Middle East region caused delays in acquiring input materials from foreign OEM's impacting the performance for the 3QFY24 and the company is expecting that most of these issues will be resolved by the latter part of the current financial year.

Among the risks associated with mitigation strategies are those about the industry, heightened market competition, time-to-market, market segment decline or recession, product and input costs, fluctuating demand, and cost control.

**Business Risk:** The company is primarily dependent on a single customer, the Indian Armed Forces through the Ministry of Defence (MoD), Government of India. Any decline or re-prioritization of the Indian defence budget, reduction in their orders, termination of contracts or failure to succeed in tendering projects and deviations in the short term and long term policies of the MoD or the Indian Armed Forces in future will have a material adverse impact on BDL's business, financial condition, results of operations, growth prospects and cash flows.

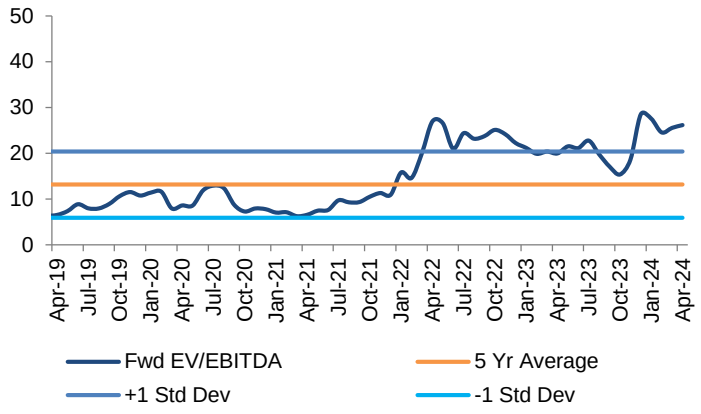
**Policy Risk:** The company is subject to a number of procurement rules & regulations of the MoD, government regulations and other rules & regulations. The company's business could be affected in case of any sudden and unforeseen changes in the applicable rules. Restrictions on current and future export of products and other regulations could affect BDL's business, results of operations and financial conditions.

**Operational & Labour Risk:** The company's operations are based out of three units in Telangana and Andhra Pradesh. The loss of, or shutdown of BDL's operations at any of its units in Telangana and Andhra Pradesh will have a material adverse effect on the company's business, financial condition and results of operations. Some of BDL's workforce is represented by labour unions and so the company's business could be harmed in the event of a prolonged stoppage of work.

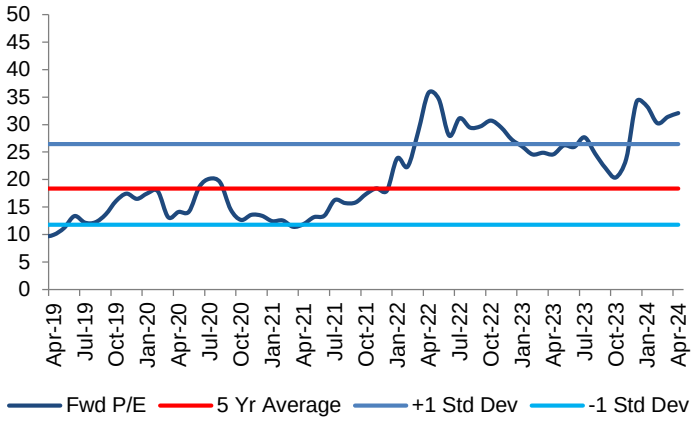
**Supplier/Service Provider Risk:** The company is dependent on multiple key OEMs for sub-assemblies / components, single source suppliers and sub-contractors. Any failure in performance of any of them could have a material impact on the company's operations. BDL is continuously striving to expand its vendor base and is sufficiently safeguarded with liquidated damage clause in case of any failure in performance. BDL is also developing multiple vendors where single source suppliers exist across its programmes to reduce its dependence and ensure continuity in the programme.

**Technology Risk:** BDL manufactures products that incorporate advanced technologies. Introduction of new products and technologies involves risks and the company may not realize the degree or timings of benefits initially anticipated. It has further activated its own R&D department and has started increasing its investment in R&D to counter technology risks. In addition, it also concurrently works with DRDO in the development of several projects.

**Exhibit 18: Rolling valuation charts**




*Source: Company, Nirmal Bang Institutional Equities Research*




*Source: Company, Nirmal Bang Institutional Equities Research*

## Financial Statements

### Exhibit 19: Income statement

| Y/E March (Rs mn) | FY22 | FY23 | FY24E | FY25E | FY26E |
|---|---|---|---|---|---|
| **Net Sales** | **28,174** | **24,894** | **33,388** | **46,908** | **64,898** |
| Raw Material Consumed | 12,634 | 12,103 | 9,477 | 13,593 | 19,102 |
| Changes in Inventory | (844) | (190) | 3,637 | 6,285 | 8,695 |
| Employee Cost | 5,707 | 5,325 | 8,871 | 11,338 | 15,686 |
| Other expenses | 3,417 | 3,574 | 4,402 | 5,252 | 7,267 |
| Total Expenditure | 20,913 | 20,812 | 26,388 | 36,467 | 50,749 |
| **Operating profit** | **7,261** | **4,082** | **7,000** | **10,441** | **14,149** |
| *Operating profit margin (%)* | *25.8* | *16.4* | *21.0* | *22.3* | *21.8* |
| Other Income | 1,112 | 1,554 | 3,510 | 3,375 | 3,353 |
| Interest | 34 | 45 | 31 | 32 | 32 |
| Depreciation | 904 | 773 | 673 | 669 | 668 |
| PBT | 7,435 | 4,818 | 9,806 | 13,115 | 16,802 |
| Exceptional items | (336) | - | - | - | - |
| PBT post exc items | 7,099 | 4,818 | 9,806 | 13,115 | 16,802 |
| Tax | 2,100 | 1,296 | 2,524 | 3,301 | 4,229 |
| *Tax rate (%)* | *29.6* | *26.9* | *25.7* | *25.2* | *25.2* |
| PAT | 4,999 | 3,522 | 7,282 | 9,814 | 12,573 |
| **Adj PAT** | **5,335** | **3,522** | **7,282** | **9,814** | **12,573** |
| **EPS (Rs)** | **27.3** | **19.2** | **39.7** | **53.5** | **68.6** |

*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 21: Balance sheet

| Y/E March (Rs mn) | FY22 | FY23 | FY24E | FY25E | FY26E |
|---|---|---|---|---|---|
| Equity Capital | 1,833 | 1,833 | 1,833 | 1,833 | 1,833 |
| Other Equity | 28,473 | 30,282 | 34,021 | 39,059 | 45,514 |
| Minority interest | - | - | - | - | - |
| Networth | 30,306 | 32,115 | 35,853 | 40,892 | 47,347 |
| Total Debt | 2,119 | 2,184 | 2,184 | 2,184 | 2,184 |
| Deferred tax liability | - | - | - | - | - |
| Other non current liabilities | 9,060 | 32,057 | 32,057 | 32,057 | 32,057 |
| Trade Payables | 5,525 | 4,644 | 5,533 | 8,169 | 11,271 |
| Other Current Liabilities | 18,629 | 15,725 | 15,725 | 15,725 | 15,725 |
| **Total liabilities** | **65,639** | **86,724** | **91,352** | **99,026** | **1,08,583** |
| PPE | 7,043 | 6,463 | 6,753 | 7,045 | 7,336 |
| CWIP | 407 | 743 | 781 | 820 | 861 |
| Investment property | 0.1 | 0.1 | - | - | - |
| Intangible assets under development | 568 | 549 | 549 | 549 | 549 |
| Intangible Assets | 1,127 | 1,074 | 1,074 | 1,074 | 1,074 |
| Investments | - | - | - | - | - |
| Deferred Tax Assets | 571 | 564 | 564 | 564 | 564 |
| Other Non-Current Assets | 690 | 1,330 | 1,330 | 1,330 | 1,330 |
| Inventories | 16,545 | 18,224 | 17,965 | 26,684 | 35,793 |
| Trade receivables | 3,042 | 1,846 | 3,659 | 4,884 | 6,401 |
| Cash & Near-Cash Items | 2,650 | 10,529 | 13,275 | 10,675 | 9,274 |
| Other Current Assets | 32,996 | 45,402 | 45,402 | 45,402 | 45,402 |
| **Total Assets** | **65,639** | **86,724** | **91,352** | **99,026** | **1,08,583** |

*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 20 Cash flow

| Y/E March (Rs mn) | FY22 | FY23 | FY24E | FY25E | FY26E |
|---|---|---|---|---|---|
| Profit before tax | 7,435 | 4,818 | 9,806 | 13,115 | 16,802 |
| Add: Depreciation & Impairment | 904 | 773 | 673 | 669 | 668 |
| Add: Interest Expenses | 34 | 45 | 31 | 32 | 32 |
| Others | (59) | (1,068) | - | - | - |
| Cash flow from operations before WC | 8,314 | 4,568 | 10,510 | 13,816 | 17,502 |
| Net change in Working capital | (983) | 18,915 | (664) | (7,309) | (7,524) |
| Tax paid | (2,034) | (2,181) | (2,524) | (3,301) | (4,229) |
| **Net cash from operations** | **5,297** | **21,303** | **7,321** | **3,207** | **5,749** |
| Capital expenditure | (1,020) | (1,083) | (1,000) | (1,000) | (1,000) |
| Free cash Flow | 4276 | 20220 | 6321 | 2207 | 4749 |
| Others | (4,710) | (10,628) | - | - | - |
| **Net cash from investing** | **(5,730)** | **(11,710)** | **(1,000)** | **(1,000)** | **(1,000)** |
| Issue of shares | - | - | - | - | - |
| Increase in debt | (12) | (13) | - | - | - |
| Dividends paid incl. tax | (1,453) | (1,669) | (3,543) | (4,776) | (6,118) |
| Interest paid | (20) | (31) | (31) | (32) | (32) |
| Others | - | - | - | - | - |
| **Net cash from financing** | **(1,485)** | **(1,714)** | **(3,574)** | **(4,807)** | **(6,150)** |
| Net Cash | (1,919) | 7,878 | 2,747 | (2,601) | (1,401) |
| Opening Cash | 4,569 | 2,650 | 10,529 | 13,275 | 10,675 |
| **Closing Cash** | **2,650** | **10,529** | **13,275** | **10,675** | **9,274** |

*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 22: Key ratios

| Y/E March | FY22 | FY23 | FY24E | FY25E | FY26E |
|---|---|---|---|---|---|
| **Growth (%)** | | | | | |
| Sales | 47.2 | (11.6) | 34.1 | 40.5 | 38.4 |
| Operating Profits | 110.6 | (43.8) | 71.5 | 49.2 | 35.5 |
| Net Profits | 107.0 | (34.0) | 106.8 | 34.8 | 28.1 |
| **Leverage (x)** | | | | | |
| Net Debt: Equity | (0.62) | (1.20) | (1.15) | (0.95) | (0.79) |
| Interest Cover(x) | 185.6 | 73.0 | 203.3 | 307.5 | 421.6 |
| Total Debt/EBITDA | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 |
| **Profitability (%)** | | | | | |
| OPM | 25.8 | 16.4 | 21.0 | 22.3 | 21.8 |
| NPM | 17.7 | 14.1 | 21.8 | 20.9 | 19.4 |
| ROE | 18.7 | 11.3 | 21.4 | 25.6 | 28.5 |
| ROCE | 17.1 | 6.3 | 9.5 | 13.8 | 17.6 |
| **Turnover ratios (x)** | | | | | |
| GFAT | 2.1 | 1.9 | 2.4 | 3.2 | 4.2 |
| Debtors Turnover(x) | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| WC days | 312 | 413 | 386 | 378 | 358 |
| **Valuation (x)** | | | | | |
| P/E | 60.4 | 91.5 | 44.3 | 32.8 | 25.6 |
| P/B | 10.6 | 10.0 | 9.0 | 7.9 | 6.8 |
| EV/EBIDTA | 41.8 | 69.5 | 40.2 | 27.2 | 20.1 |

*Source: Company, Nirmal Bang Institutional Equities Research*

# Bharat Electronics Ltd

Defence | Initiating Coverage

**ACCUMULATE**

**CMP: Rs220 | Target Price (TP): Rs209 | Downside: 5%**

**April 5, 2024**

## Positive outlook for profitability, order inflow, and revenue

### Key Points

- India's Ministry of Defence established the Bharat Electronics Limited (BEL) in 1954. The company designs and manufactures state-of-the-art electronic equipment/components for India's defence services, paramilitary organizations, and other government agencies such as the Department of Space, the Department of Telecommunications, Police Wireless, the Meteorological Department, and the Airport Authority of India (AAI). In addition, BEL supplies electronic components to companies in the private sector.
- **Robust order inflows**: BEL has accumulated orders worth Rs. 327 bn in Q3FY24; full year order book is noted at Rs. 770 bn executable over 4-5 years. The order book is predicted to increase by 8% in FY25E.
- **Valuation:** We begin with an "Accumulate" with a target of Rs 209, valuing it at 31x March'26 EPS above +1 SD higher than the historical trend. Significant risks include Delay in awarding significant orders such as QRSAM, delay in implementation in the present geopolitical climate, and margin erosion.

**Large and versatile manufacturing base:** The government's focus on R&D, increased indigenisation levels and completion of key projects like Brahmos missile, Aakash air defence systems, LAC Tejas, light combat helicopter and submarines provide enough room to grow domestic defence ecosystem. BEL has a strong manufacturing base and execution capabilities of delivering products across all three defence verticals, making it the preferred partner. BEL delivered the Indian-designed communications system that would enable the exchange of tactical data and messages between Indian Navy aircraft, ships and shore establishments.

**View & Valuation:** BEL has been continuously focusing on sustainable growth plans and has taken various initiatives, including a focusing on enhancing its R&D capability, enhancing manufacturing capabilities (through timely modernization and expansion of facilities), and entry into JVs in existing as well as emerging businesses to enhance growth visibility. In FY24, BEL announced order inflows of Rs 327 bn, compared to its initial projection of Rs 200 bn. This suggests a robust order inflow pipeline, providing visibility for near-to-medium-term new order wins. We begin with an "Accumulate" with a target of Rs 209, valuing it at 31x March'26 EPS above +1 SD higher than the historical trend.

| | |
|---|---|
| Est Change | - |
| TP Change | - |
| Rating Change | - |

**Company Data and Valuation Summary**

| | |
|---|---|
| Reuters | BAJE.BO |
| Bloomberg | BHE IN Equity |
| Market Cap (Rsbn / US$bn) | 1,610.3 / 19.3 |
| 52 Wk H / L (Rs) | 225 / 95 |
| ADTV-3M (mn) (Rs / US$) | 5,566.1 / 67.0 |
| Stock performance (%) 1M/6M/1yr | 5.1 / 58.7 / 128.1 |
| Nifty 50 performance (%) 1M/6M/1yr | 2.4 / 3.7 / 27.9 |

| Shareholding | 1QFY24 | 2QFY24 | 3QFY24 |
|---|---|---|---|
| Promoters | 51.1 | 51.1 | 51.1 |
| DIIs | 24.8 | 24.2 | 23.4 |
| FIIs | 17.4 | 17.2 | 17.8 |
| Others | 6.7 | 7.5 | 7.7 |
| Pro pledge | 0.0 | 0.0 | 0.0 |

| Top Shareholders | % of Company |
|---|---|
| Nippon Life India Asset Management | 3.91 |
| Kotak Mahindra Asset Management Co | 3.48 |
| HDFC Asset Management Co Ltd | 2.62 |
| Vanguard Group Inc | 1.95 |

**Financial and Valuation Summary**

| Particulars (Rsmn) | FY23 | FY24E | FY25E | FY26E |
|---|---|---|---|---|
| Net Sales | 1,77,344 | 2,08,896 | 2,38,521 | 2,76,563 |
| *Growth YoY (%)* | *15.4* | *17.8* | *14.2* | *15.9* |
| EBITDA | 40,859 | 49,744 | 57,365 | 64,970 |
| *EBITDA margin (%)* | 23% | 24% | 24% | 23% |
| Adj. PAT | 29,862 | 38,685 | 44,021 | 49,362 |
| *Growth YoY (%)* | *24.4* | *29.5* | *13.8* | *12.1* |
| EPS (Rs) | 4.1 | 5.3 | 6.0 | 6.8 |
| *RoE (%)* | 22.8 | 25.9 | 25.5 | 24.8 |
| EV/EBITDA | 37.4 | 29.6 | 24.8 | 21.1 |
| P/E (x) | 53.9 | 41.6 | 36.6 | 32.6 |

*Source: Bloomberg, Company, Nirmal Bang Institutional Equities Research*

**Key Links :**

FY23 Annual Report | 3QFY24Result

*Please refer to the disclaimer towards the end of the document.*

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**Research Analyst**
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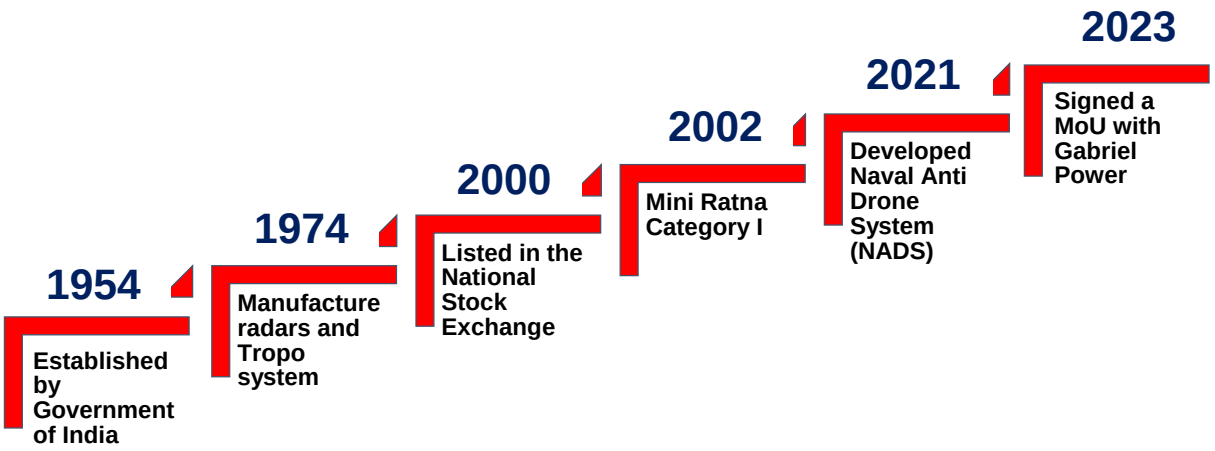
## Company background

BEL, established in 1954, is a Navratna Public Sector Undertaking. It was set up in association with CSF, France (now, Thales), to manufacture basic communication equipment. BEL now produces a wide range of state-of-the-art equipment in fields such as Defence Communication, Radars, Naval Systems, C4I Systems, Weapon Systems, Homeland Security, Telecom & Broadcast Systems, Electronic Warfare, Tank Electronics, Electro Optics, Professional Electronic Components and Solar Photovoltaic Systems. BEL also provides turnkey system solutions. Civilian products from BEL include Electronic Voting Machines, Tablet PC, solar-powered traffic signal systems and Access Control Systems.

**Exhibit 1: Key milestones of the company**




*Source: Company, Nirmal Bang Institutional Equities Research*

## Investment Argument:

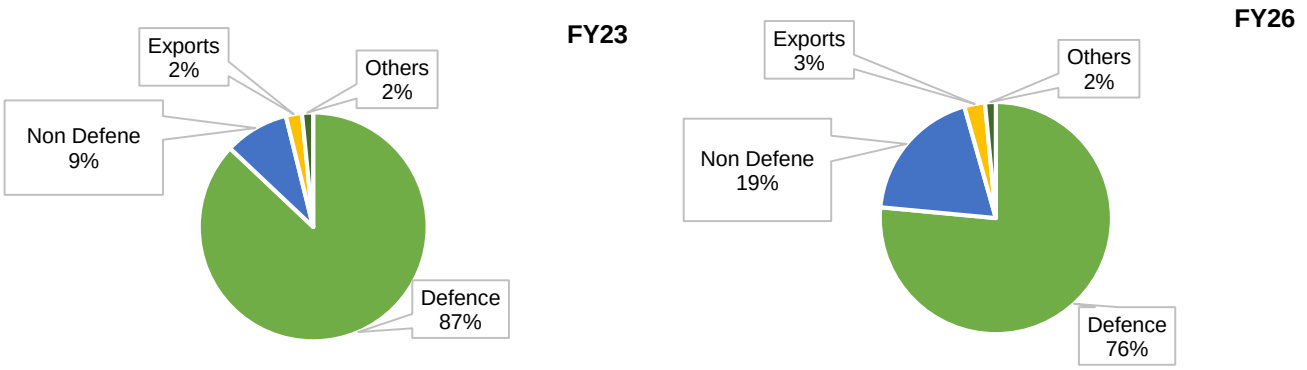
BEL's topline has increased at a 5-year CAGR of around 11% during FY18-23. Strong local and foreign business performance in defence and non-defence categories fueled the rise. Defence items remained the cornerstone, accounting for 79% of total revenue in FY23, with the remaining 21% coming from non-defence and other segments. We expect the trend will remain relatively stable.

**Exhibit 2: Defence sector to drive the revenues**

| Revenue (Rs mn) | FY21 | FY22 | FY23 | CAGR (FY18-21) | FY24 | FY25 | FY26 | CAGR (FY24-26) |
|---|---|---|---|---|---|---|---|---|
| Defence | 107,630 | 135,351 | 151,114 | 18% | 169,206 | 193,202 | 224,016 | 15% |
| Non-Defence | 19,829 | 10,291 | 15,714 | -11% | 27,365 | 33,393 | 41,208 | 23% |
| Exports | 3,783 | 2,360 | 4,387 | 8% | 3,760 | 6,440 | 9,956 | 63% |
| Others | 9,845 | 5,680 | 6,129 | -21% | 8,565 | 5,486 | 1,383 | -60% |
| **Total** | **141,087** | **153,682** | **177,344** | 12% | **208,896** | **238,521** | **276,563** | 15% |

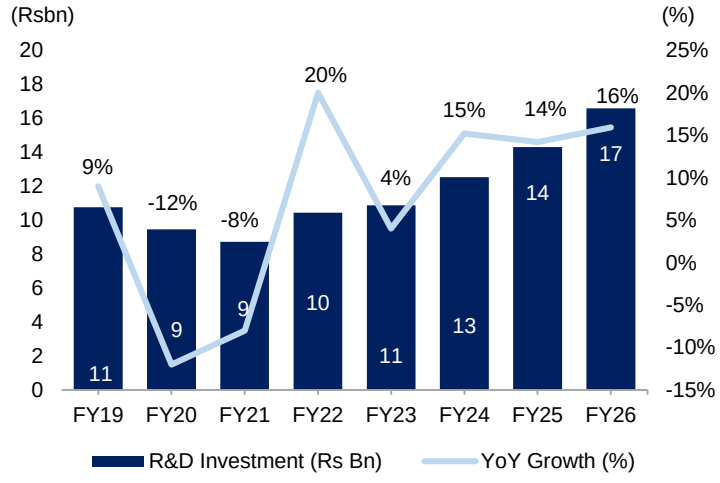
*Source: Company, Nirmal Bang Institutional Equities Research*

**Exhibit 3: Contribution of non defence sector to increase in the forecast year**

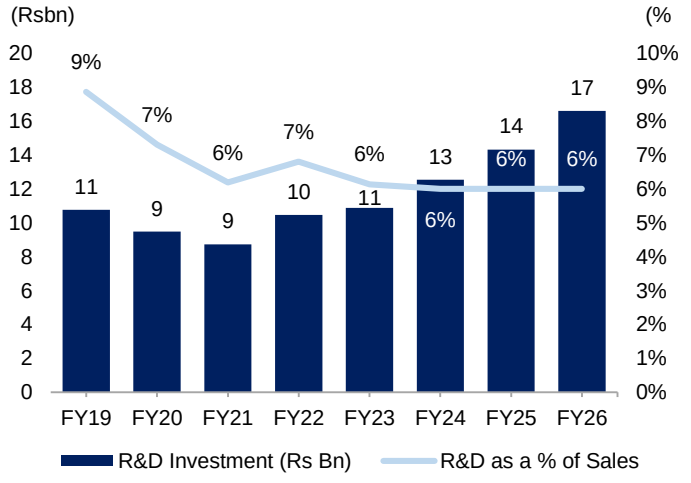



*Source: Company, Nirmal Bang Institutional Equities Research*

**Exhibit 4: Research & Development plays an integral role in BEL's Growth Strategy**




*Source: Company, Nirmal Bang Institutional Equities Research*




*Source: Company, Nirmal Bang Institutional Equities Research*

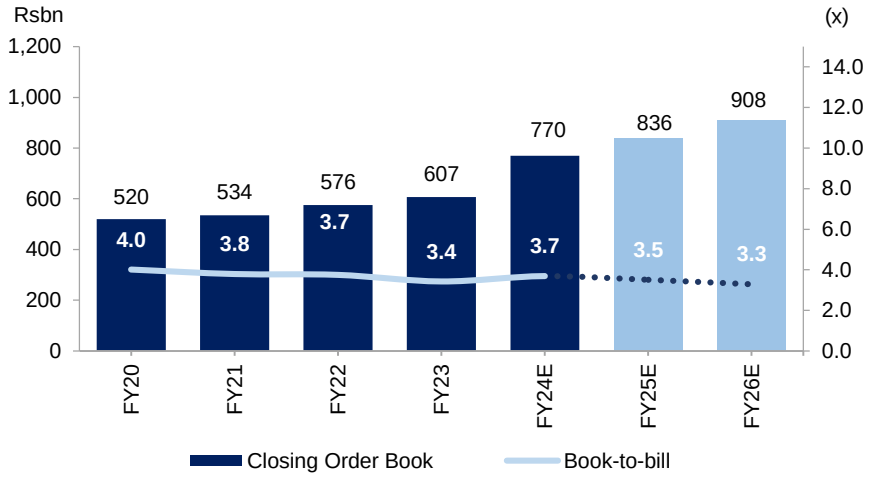
BEL created Central Research facilities in Bangaluru and Ghaziabad. The facilities do research in signal processing, computing, radars, communications systems, materials and devices, microelectronics, and manufacturing technologies. BEL will help the company to scale up R&D for innovative products/services to align with the growth and transformation objectives. All R&D tiers (D&Es, PD&IC/CoEs, and CRLs) will continue to work together to explore new development areas and complement each other in meeting requirements through in-house and collaborative modes of development. BEL regularly invests approximately 6.3% of its annual revenue in R&D. It will continue to support R&D programs aimed at enabling an Atmanirbhar Bharat by developing and delivering high-quality defence and professional electronics products, systems, and solutions for India and around the world. BEL vigorously pursues IPR-related activities year after year. Concerted efforts have resulted in the grant of 100 IPRs, including 22 patents during FY23. Some of the granted patents are the Voter Verifiable Paper Audit Trail (VVPAT) System.

**Exhibit 5: Collaboration on the path of Research and Development**

| Strategic Partner | Area of Cooperation |
|---|---|
| Advanced Weapons and Equipment India Limited (AWEIL) | Joint development and production of Air Defence Guns, Artillery Guns and Upgrades for Indian Defence and export market |
| Armoured Vehicles Nigam Ltd AVNL), Chennai | Joint development and production of Armoured Fighting Vehicles (AFV) and variants and upgrades for Indian Defence and export market |
| Munitions India Limited (MIL) | Cooperation for Make in India Programs for Ammunition and related products |
| Safran Electronics & Defence | Domestic manufacture/upgrade of sensors for naval platforms, precision guide munitions (PGMs) etc. |
| IAI, Israel | Domestic manufacture of Weapon Systems |
| Aeronautical Design Agency (ADA), Bengaluru | Joint Development of Onboard Computer (IWBC) and Other LRUs for Advanced Medium Combat Aircraft (AMCA) |
| Hindustan Shipyard Ltd | Joint development and manufacturing of sub systems for Naval platforms, Unmanned Underwater Systems, etc. |
| Mazagon Dock Shipbuilders Ltd | Joint development and manufacturing of Indigenous materials/equipment required for shipbuilding, submarine programmes and other platforms |
| Indian Institute of Science (IISc), Bengaluru | Co-operate and work in areas of Artificial Intelligence (AI) and Machine Learning (ML) |
| AAI Delhi | Joint development for Integrated Air Traffic Management (ATM) automation system and Advance Surface Movement & Guidance Control System (ASMGCS) |
| University of Agriculture Sciences | Develop solution for Digital farming/agriculture |
| Smiths Detection Systems Pvt Ltd | Domestic manufacturing and supply of high energy scanners |

*Source: Company, Nirmal Bang Institutional Equities Research*

**Exhibit 6: Orders accumulating to Rs.770 bn in FY24**

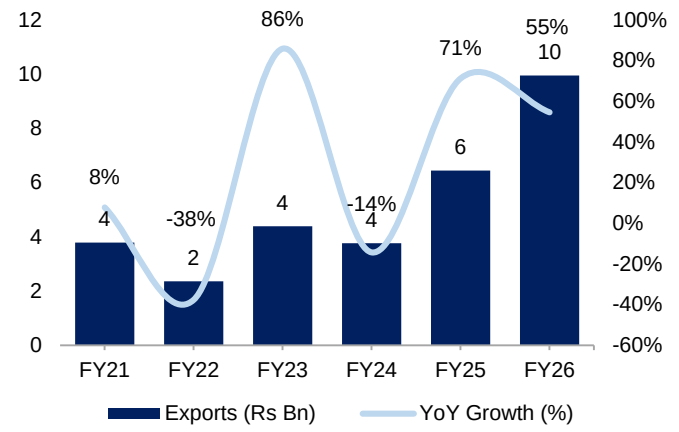



*Source: Company, Nirmal Bang Institutional Equities Research*

BEL closed FY24 with Rs. 770 bn executed over 4-5 years. The order book is predicted to increase by 8% in FY25E. The orderbook breakup include:

- The company received orders worth Rs26.7bn from Goa Shipyard Ltd and Garden Reach Shipbuilders & Engineers Ltd to supply 14 types of sensors for use on Next Generation Offshore Patrol Vessels (NGOPV). In addition, the Ministry of Defence entered into a significant agreement with BEL, Pune to acquire electronic fuzes for the Indian Army over 10 years, with a total investment of Rs53.36bn. Modern internal processes & systems and emphasis on R&D and localization provide BEL with a distinct competitive advantage.
- The order book for FY24 comprises major programmes like Long Range Surface-to-Air Missile System (LRSAM), the Akash Missile Systems, Command & Control System, Battle Field Surveillance Systems, Fire Control Systems, Software Defined Radios, Coastal Surveillance Systems, Advance Composite Communication System, Naval Systems, Electronic Warfare Suite etc.
- BEL received orders from Larsen & Toubro Limited (L&T) Rs 8.4 bn plus taxes for 14 cutting-edge Communication and Electronic Warfare (EW) sensors and systems, which will be placed on three Indian Navy cadet Training Ships.
- The delivery of LRUs for T-70 and T-90 tanks, communication systems for the Indian Navy, and other spares and services totals Rs. 10,926.5 mn.
- Rs. 39.2 bn from the Indian Army for radars costing Rs. 5.8 bn and an Airborne Early Warning & Control (AEW&C) system includes uncooled TI sights, SDRs, SWIR payload, IACCs, and Passive Night Vision Binoculars.
- These are recurrent orders, thus we believe they will be executed during the next 12-15 months. Furthermore, radar AMC is anticipated to include involvement from BEL sub-vendors.

**Exhibit 7: Exploring avenues to increase exports**

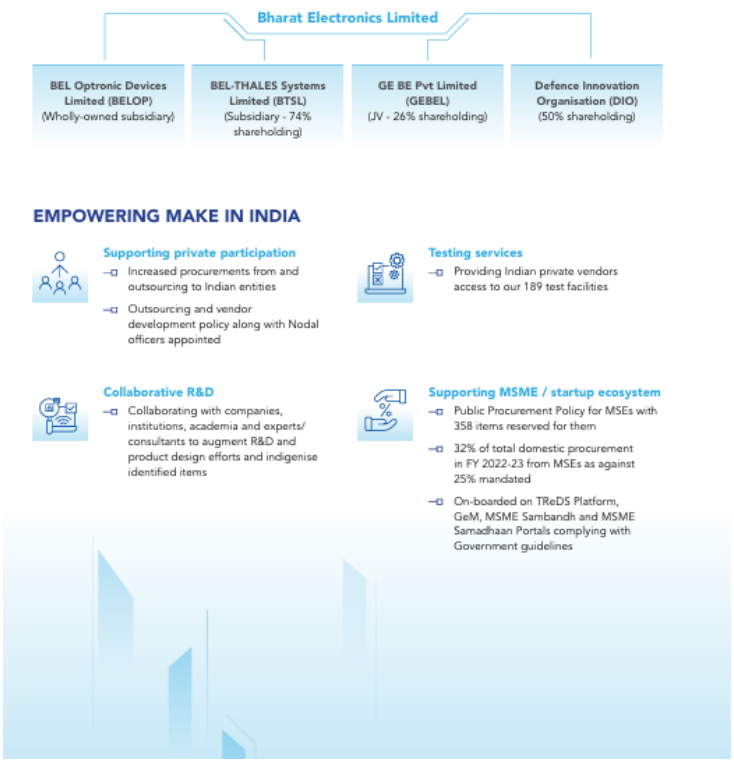


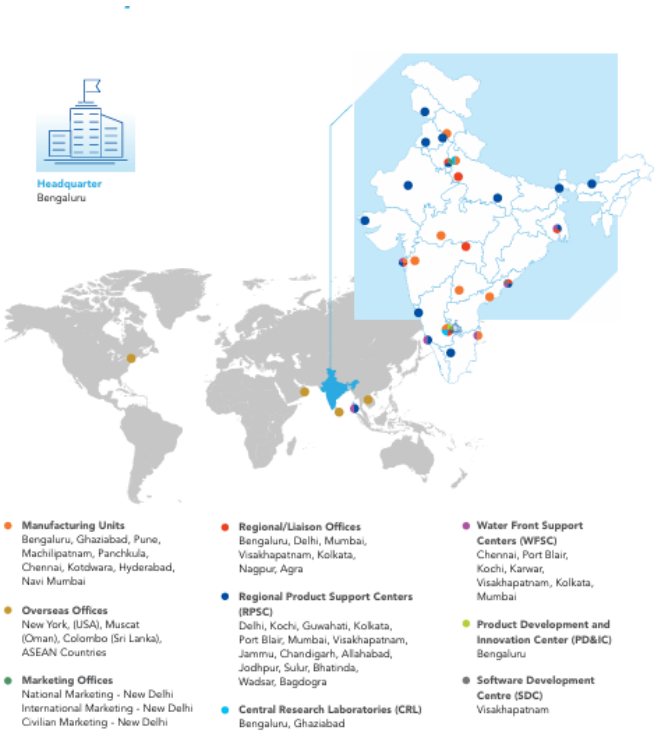

*Source: Company, Nirmal Bang Institutional Equities Research*


*Source: Company, Nirmal Bang Institutional Equities Research*

- BEL's exports have grown at 5-year CAGR of 20.6%. The company targets to increase business opportunities in Southeast Asia, Europe, the Middle East, Africa and North and South America.
- It achieved export orders worth US$75.6mn during FY23, from various countries viz., USA, France, Germany, Israel, Sweden, Mauritius, Armenia, etc.
- Export order book position on 1st April, 2023 stood at an all-time high of US$295mn executable over a period of 24 months.
- Major products/systems exported are Radar Warning Receivers, Missile Approach Warning Systems, T R Modules, Coastal Radar Systems, Sub-Systems of Radar and EW Systems, Data Link II, Mechanical Parts, Communication Equipment, EOS, Radar and sonar Spares, and Smart mailboxes.

**Exhibit 8: Global Presence**




**BEL has 9 manufacturing units in India and 2 research facilities. The Bangalore and Ghaziabad operations are its two major businesses, with the former accounting for most of the company's total sales and profits.**

**Exhibit 9: Range of products**

| DEFENCE SEGMENT | | | |
|---|---|---|---|
|  Radars |  Network Centric Systems (C4ISR) |  Naval Systems |  Missile Systems |
|  Defence Communications |  Electro Optics |  Tank Electronics & Gun Upgrades |  Homeland Security & Smart Cities |

| | |
|---|---|
|  Electronic Warfare & Avionics | • **Fire Control Systems**<br>• **Avionics**<br>• **Anti-Submarine Warfare Systems & Sonars**<br>• **Tank Electronics**<br>• **Gun Upgrades and Strategic Components.**<br>• **Arms & Ammunitions**<br>• **Seekers & Missiles**<br>• **Network & Cyber Security** |
| **NON-DEFENCE SEGMENT** | |
|  Non-Defence Products | • **Electronic Voting Machine (EVM) & Voter Verifiable Paper Audit Trail (VVPAT),**<br>• **Software Solutions/Services**<br>• **Healthcare Solutions**<br>• **Civil Aviation and Solar Cells/Power Plants**<br>• **Providing Railway/Metro/Airport Solutions**<br>• **Space Electronics & Systems**<br>• **Alternate Energy Solutions**<br>• **Secure Communication Solutions and Software.** |

**BEL designs and manufactures:**

- State-of-the-art products in the field of radars, defence communications, sound & vision broadcasting, opto-electronics, IT products and electronic components.
- Radars for defence applications in the Army, Air Force and Navy. These include “surveillance, fire control, tracking and navigation” systems. The “frequency band covered extends from C band up to Ka band.” BEL also offers networking of radars.
- Sonar systems for naval surface ships, submarines and aircraft.
- “Critical components” for the DRDO such as “semiconductor electron tubes, passive devices, microwave components and batteries.”
- Missile ground and flight instrumentation systems such as signal conditioners that provide interface between missile sensors/transducers (pressure, acceleration, strain, temperature, vibration, acoustic noise and electric inputs) and telemetry systems.
- Dry-tuned gyros and macro accelerometers for the Prithvi and Agni programs. BEL also produces fiber optic gyros of an “open-loop design.”

## A reputable and experienced Management Team

### Mr. Bhanu Prakash Srivastava – CMD

Mr. Bhanu Prakash Srivastava is the Chairman and Managing Director (CMD) of the company. He holds a degree Bachelor of Technology (Mechanical Engineering) from IIT-BHU and Master of Business Administration (Marketing). He joined BEL in August 1986 and has had a career spanning 36 years across the three units of BEL.

### Mr. Manoj Jain - Director (R&D)

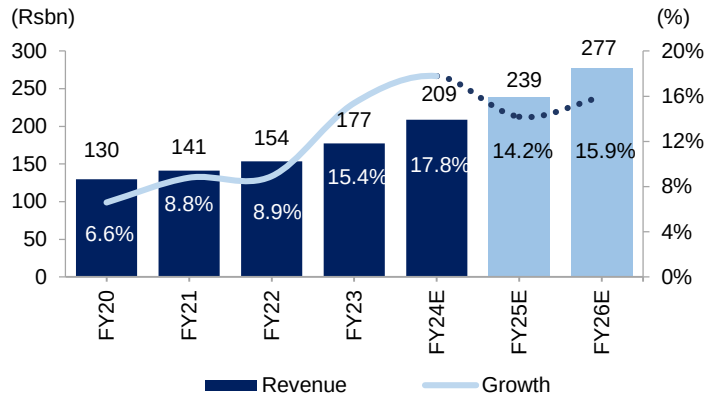
Mr. Manoj Jain has a Bachelor of Engineering degree in Electronics from the Malaviya National Institute of Technology (MNIT), Jaipur with gold medal. He joined BEL in August 1991 as a Probationary Engineer.

### Mr. Damodar Bhattad - Director (Finance) & CFO

Mr. Damodar Bhattad is a Chartered Accountant (CA). He is a B.Com Graduate from the University of Madras. Over four years, he has served the company in various roles and capacities.

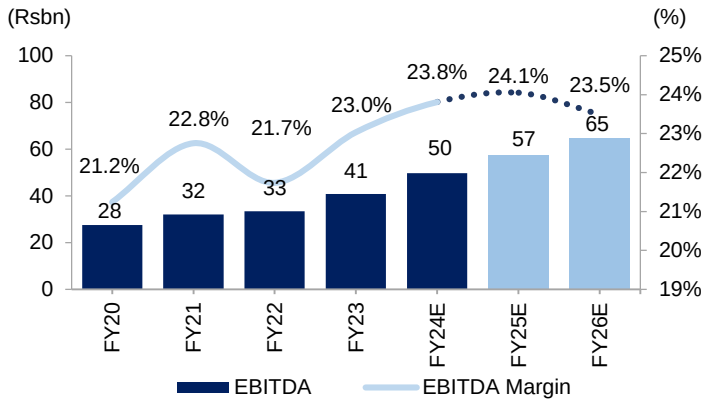
## BEL Key Performance Indicators

### Exhibit 10: Revenue CAGR at 15% in FY24-26



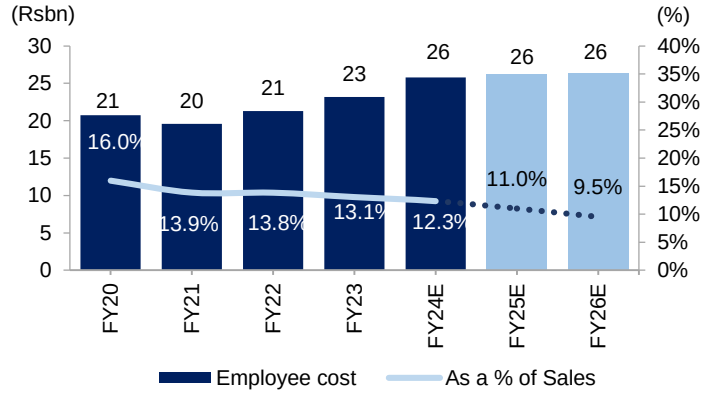

*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 11: Maintain EBIDTA margin of 20%+



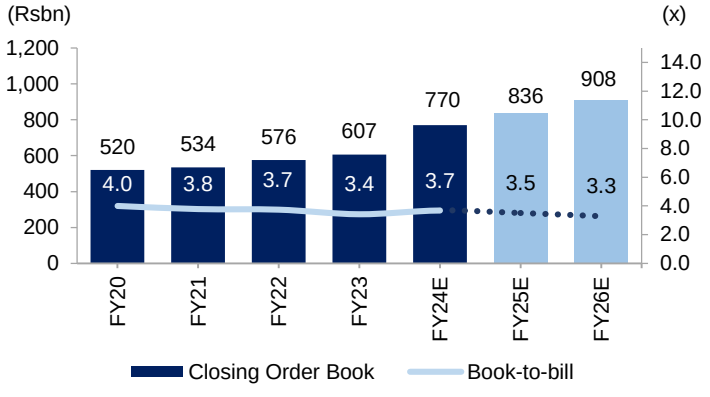

*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 12: Employee cost to stabilize



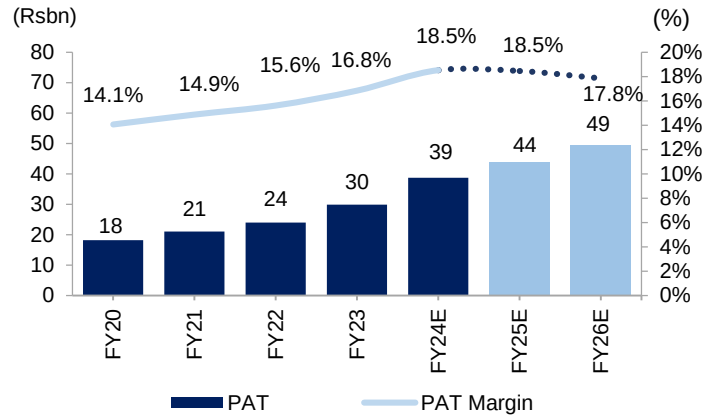

*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 13: Strong visibility on the orderbook



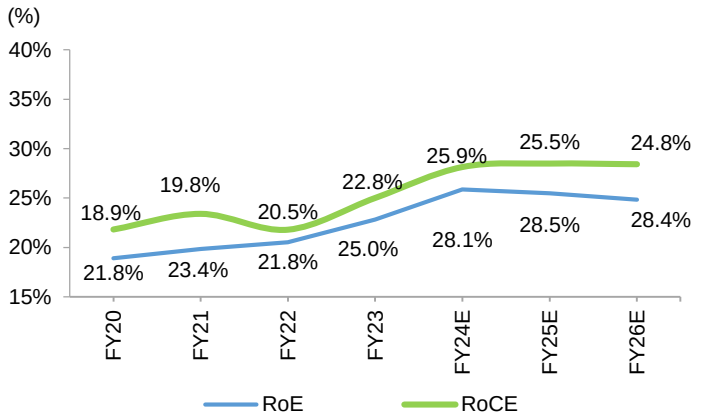

*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 14: Maintain healthy PAT margins




*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 15: Stable to better Return ratios




*Source: Company, Nirmal Bang Institutional Equities Research*

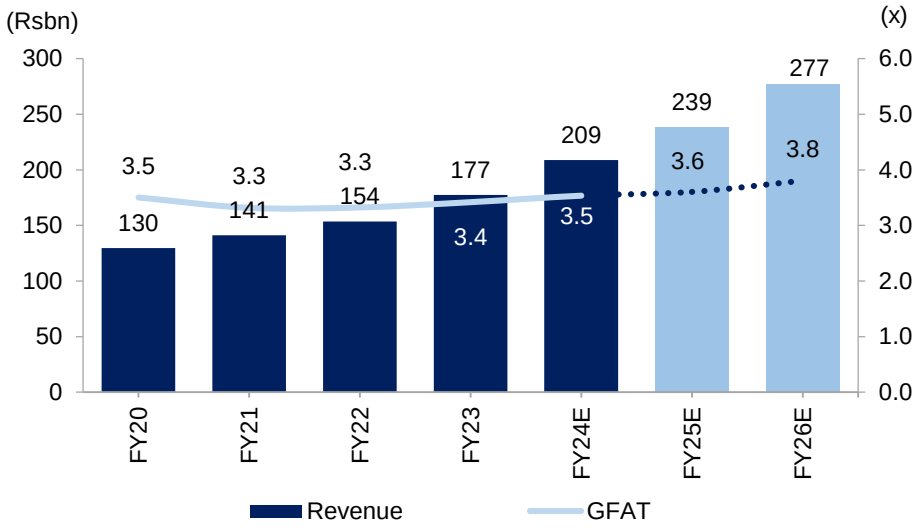
**Exhibit 16: Cash Conversion Cycle Trends**

| Cash Conversion Cycle | FY21 | FY22 | FY23 | FY24 | FY25 | FY26 |
|---|---|---|---|---|---|---|
| Debtor Days | 172 | 150 | 135 | 140 | 138 | 135 |
| Inventory Days | 208 | 217 | 224 | 290 | 275 | 270 |
| Payable Days | 134 | 137 | 124 | 125 | 123 | 120 |
| **CCC** | **246** | **230** | **234** | **305** | **290** | **285** |

*Source: Company, Nirmal Bang Institutional Equities Research*

The NBIE predicts that the working capital cycle will reach 285 in FY26. Furthermore, increasing manufacturing contract executions will shorten collection time frames..

**Exhibit 17: Higher revenues to offset Capex plans**




*Source: Company, Nirmal Bang Institutional Equities Research*

BEL plans to invest Rs. 7 bn and 8 bn in FY24 and FY25, respectively.New facilities are set to open at Palasamudram, Hyderabad, and Masulipatnam, Andhra Pradesh. The company is examining proposals for purchasing new machinery and test setups.

## View and Valuation:

We believe that considerably larger new orders imply a rapid acceleration of the defence pipeline. This might help BEL maintain a continuous order book ramp-up, justifying higher valuations comparable to industrial rivals. We anticipate a revenue/EBITDA/PAT CAGR of 15%/14%/13% in FY24-26. In fiscal year 19-23, when earnings CAGR was 12% and average PE was 31x, PEG was 2.85. Accounting for a comparable PEG ratio in FY24-26, our PE multiple is 37x, representing a 19% premium to +1SD. However, considering the historical multiple, delays in awarding important orders such as QRSAM and MSRM, implementation delays in the current geopolitical situation, and margin erosion. We will be cautious and attribute 31x above +1 SD higher than the historical trend. We begin with an "Accumulate" with a target of Rs 209, valuing it at 31 times March'26 EPS.

**Exhibit 18: Valuation summary.**

| Particulars | (Rs mn) |
|---|---|
| March'26E EPS | 6.8 |
| Target multiple (x) | 31 |
| **Target price (Rs)** | **209** |
| CMP (Rs ) | 220 |
| **Upside / (downside) %** | **-5%** |

*Source: Company, Nirmal Bang Institutional Equities Research*

## RISKS AND CONCERNS

**Mitigating risks in operating environment:**

Operating primarily in the Defence sector, BEL's business faces challenges from geopolitical diversities, interconnected supply chains, evolving technologies and strategic trade control regulations. The company navigates such risks through proactive planning and actions, supported by robust Enterprise Risk Management (ERM) framework with well-defined policies and procedures. It enables a resilient and sustainable business model and ability to seize opportunities.

**Technology Risks:** With a wide array of technologies available, there is a need to incorporate the right one into equipment, systems and platforms based on customer preferences. Incompatibility or misalignment of technology with customer preferences and timelines could lead to resource loss and business impact.

**Mitigating actions**

- Co-opt end users/customers during technology/product development as well as during development and acceptance trials. Review, reassess and incorporate necessary changes as part of the product development process.
- Focus on in-house or collaborative (with national R&D institutions, academia and start-ups) development of critical technologies. It enables greater control and facilitates the integration of multiple technologies.
- Explore new models for the development/acquisition of requisite technologies, allowing for more efficient and effective technology acquisition processes

**Competitive landscape risk:** There is an impetus for the development of the domestic defence industrial base with multiple policy initiatives and budgetary allocation by the Government of India, aimed at encouraging private sector participation. These have resulted in increased competition within the domestic defence market, which may impact the company's market position in certain segments.

**Mitigating Actions**

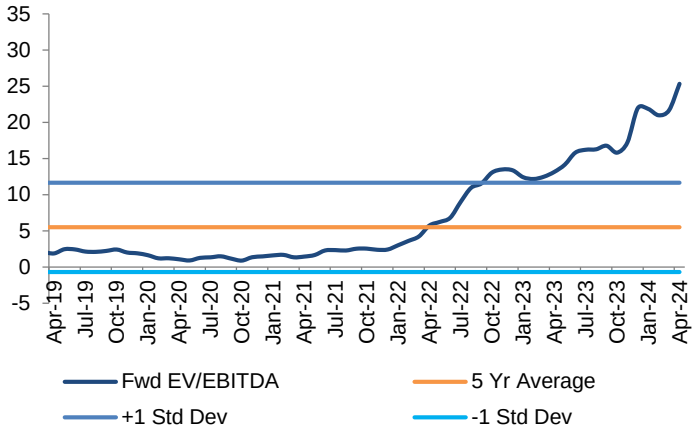
- Foster strategic partnerships with domestic private defence entities for co-development, manufacturing, etc. to jointly address the opportunities emerging from the positive indigenisation lists.
- Emphasis on in-house development of high-value and high-technology products / strategic systems.
- Pursue product and market diversification strategies, including exploration of export markets to reduce sole reliance on domestic markets.

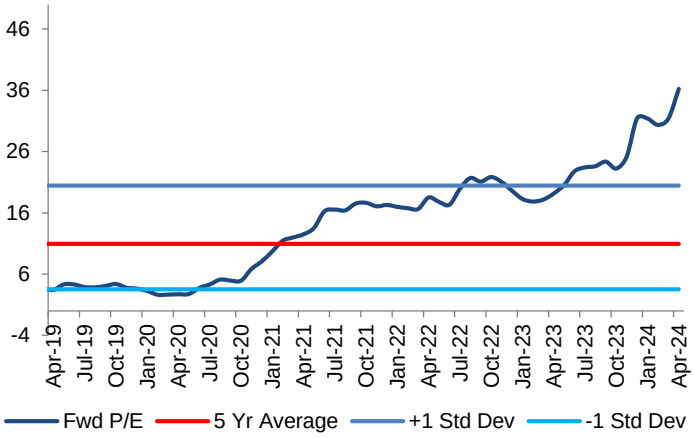
**Risks in Input Raw Material/Components:** Potential delays in the receipt of input material/components due to factors including supply chain disruptions, long lead times and vendor defaults due to increased RM prices.

**Mitigating Actions**

- Continuously expanding sourcing channels for critical components and identifying alternate vendors as well as logistics & freight channels to minimise the impact.
- Focus on pre-ordering essential stock of long-lead time components/RMs to ensure ready availability.
- Engage in advance procurements in anticipation of definitive customer orders and complete all pre-purchase order activities beforehand. This streamlines the procurement process and minimises potential delays.

**Exhibit 19: Rolling valuation charts**




*Source: Company, Nirmal Bang Institutional Equities Research*

*Source: Company, Nirmal Bang Institutional Equities Research*

## Financial Statements

### Exhibit 20: Income statement

| Y/E March (Rs mn) | FY22 | FY23 | FY24E | FY25E | FY26E |
|---|---|---|---|---|---|
| Net Sales | 153,682 | 177,344 | 208,896 | 238,521 | 276,563 |
| Raw Material Consumed | 81,240 | 93,930 | 115,416 | 136,207 | 166,258 |
| Purchase of Traded Goods | 10,535 | 8,279 | 6,515 | 7,025 | 7,115 |
| Changes in Inventory | (2,803) | (3,933) | (2,798) | (3,719) | (3,825) |
| Employee Cost | 21,280 | 23,173 | 25,768 | 26,221 | 26,359 |
| Other expenses | 10,021 | 15,037 | 14,251 | 15,423 | 15,686 |
| Total Expenditure | 120,273 | 136,486 | 159,152 | 181,156 | 211,594 |
| Operating profit | 33,409 | 40,859 | 49,744 | 57,365 | 64,970 |
| *Operating profit margin (%)* | *21.7%* | *23.0%* | *23.8%* | *24.1%* | *23.5%* |
| Other Income | 2,315 | 2,808 | 5,724 | 5,725 | 5,715 |
| Interest | 50.5 | 149.5 | 36.0 | 93.9 | 95.4 |
| Depreciation | 4,011 | 4,288 | 4,321 | 4,630 | 5,084 |
| PBT | 31,662 | 39,229 | 51,111 | 58,367 | 65,505 |
| Exceptional items | - | - | - | - | - |
| PBT post exc items | 31,662 | 39,229 | 51,111 | 58,367 | 65,505 |
| Tax | 8,118 | 9,826 | 12,812 | 14,691 | 16,488 |
| *Tax rate (%)* | *25.6%* | *25.0%* | *25.1%* | *25.2%* | *25.2%* |
| PAT | 23,545 | 29,404 | 38,299 | 43,676 | 49,017 |
| **Adj PAT** | **24,002** | **29,862** | **38,685** | **44,021** | **49,362** |
| **EPS (Rs)** | **3.3** | **4.1** | **5.3** | **6.0** | **6.8** |

*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 21 Cash flow

| Y/E March (Rs mn) | FY22 | FY23 | FY24E | FY25E | FY26E |
|---|---|---|---|---|---|
| Profit before tax | 31,662 | 39,229 | 51,111 | 58,367 | 65,505 |
| Add: Depreciation & Impairment | 4,011 | 4,288 | 4,321 | 4,630 | 5,084 |
| Others Income | (897) | (938) | 38,051 | 13,785 | 18,890 |
| Cash flow from operations before WC | 34,776 | 42,580 | 93,483 | 76,781 | 89,480 |
| Net change in Working capital | 15,339 | (20,779) | (32,468) | (14,300) | (23,689) |
| Tax paid | (8,043) | (9,132) | (12,812) | (14,691) | (16,488) |
| Net cash from operations | 42,072 | 12,669 | 48,203 | 47,790 | 49,303 |
| Capital expenditure | (5,546) | (5,905) | (7,500) | (7,000) | (8,000) |
| Free Cash Flow | 36,527 | 6,764 | 40,703 | 40,790 | 41,303 |
| Others | (43,171) | 32,813 | 32,511 | 32,212 | 31,916 |
| Net cash from investing | (48,717) | 26,908 | 25,011 | 25,212 | 23,916 |
| Dividends paid incl. tax | (10,233) | (12,428) | (17,045) | (19,396) | (21,749) |
| Others | (543) | (701) | 51 | (94) | (95) |
| Net cash from financing | (10,776) | (13,129) | (16,994) | (19,490) | (21,845) |
| Net Cash | (17,420) | 26,448 | 56,221 | 53,512 | 51,374 |
| Opening Cash | 30,429 | 13,009 | 39,457 | 95,678 | 149,190 |
| Closing Cash | 13,009 | 39,457 | 95,678 | 149,190 | 200,564 |

*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 22: Balance sheet

| Y/E March (Rs mn) | FY22 | FY23 | FY24E | FY25E | FY26E |
|---|---|---|---|---|---|
| Equity Capital | 2,437 | 7,310 | 7,310 | 7,310 | 7,310 |
| Other Equity | 120,423 | 131,307 | 152,946 | 177,571 | 205,184 |
| Minority interest | 163 | 178 | 178 | 178 | 178 |
| Networth | 123,023 | 138,794 | 160,434 | 185,058 | 212,671 |
| Total Debt | 10,337 | 13,567 | 23,654 | 45,742 | 70,831 |
| Deferred tax liability | 15 | 29 | 29 | 29 | 29 |
| Other non current liabilities | 19,538 | 9,786 | 12,428 | 10,774 | 11,224 |
| Trade Payables | 33,693 | 33,304 | 40,799 | 47,014 | 55,742 |
| Other Current Liabilities | 152,501 | 159,433 | 194,420 | 209,420 | 227,420 |
| **Total liabilities** | **339,106** | **354,912** | **431,763** | **498,037** | **577,917** |
| PPE | 25,094 | 26,943 | 30,127 | 32,308 | 33,406 |
| CWIP | 4,459 | 3,612 | 3,793 | 3,983 | 5,800 |
| Investment property | 0.7 | 0.6 | 0.6 | 0.6 | 0.6 |
| Intangible assets under development | 5,601 | 4,937 | 4,937 | 4,937 | 4,937 |
| Intangible Assets | 1,658 | 2,685 | 2,685 | 2,685 | 2,685 |
| Investments | 2,329 | 2,007 | 2,007 | 2,007 | 2,007 |
| Deferred Tax Assets | 6,209 | 5,037 | 5,037 | 5,037 | 5,037 |
| Other Non-Current Assets | 20,817 | 9,212 | 9,212 | 9,212 | 9,212 |
| Inventories | 55,919 | 64,480 | 94,653 | 105,112 | 125,419 |
| Trade receivables | 61,081 | 70,335 | 80,125 | 90,181 | 102,291 |
| Cash & Near-Cash Items | 13,009 | 39,457 | 95,678 | 149,190 | 200,564 |
| Other Current Assets | 142,929 | 126,205 | 103,508 | 93,384 | 86,558 |
| **Total Assets** | **339,106** | **354,912** | **431,763** | **498,036** | **577,916** |

*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 23: Key ratios

| Y/E March | FY22 | FY23 | FY24E | FY25E | FY26E |
|---|---|---|---|---|---|
| **Growth (%)** | | | | | |
| Sales | 8.9 | 15.4 | 17.8 | 14.2 | 15.9 |
| Operating Profits | 4.1 | 22.3 | 21.7 | 15.3 | 13.3 |
| Net Profits | 14.4 | 24.4 | 29.5 | 13.8 | 12.1 |
| **Leverage (x)** | | | | | |
| Net Debt: Equity | (0.61) | (0.58) | (0.85) | (1.01) | (1.11) |
| Interest Cover(x) | 582.1 | 244.6 | 1,261.7 | 561.5 | 627.7 |
| Total Debt/EBITDA | 0.02 | 0.02 | 0.01 | 0.01 | 0.01 |
| **Profitability (%)** | | | | | |
| OPM | 21.7 | 23.0 | 23.8 | 24.1 | 23.5 |
| NPM | 15.3 | 16.6 | 18.3 | 18.3 | 17.7 |
| ROE | 20.5 | 22.8 | 25.9 | 25.5 | 24.8 |
| ROCE | 21.8 | 25.0 | 28.1 | 28.5 | 28.4 |
| **Turnover ratios (x)** | | | | | |
| GFAT | 3.3 | 3.4 | 3.5 | 3.6 | 3.8 |
| Debtors Turnover(x) | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 |
| WC days | 230 | 234 | 305 | 290 | 285 |
| **Valuation (x)** | | | | | |
| P/E | 67.1 | 53.9 | 41.6 | 36.6 | 32.6 |
| P/B | 13.1 | 11.6 | 10.0 | 8.7 | 7.6 |
| EV/EBIDTA | 46.0 | 37.4 | 29.6 | 24.8 | 21.1 |

*Source: Company, Nirmal Bang Institutional Equities Research*

# Hindustan Aeronautics Ltd

Defence | Initiating Coverage

**ACCUMULATE**

**CMP: Rs3,541 | Target Price (TP): Rs3,384 | Downside: 4%**

**April 5, 2024**

## Flying high….Conquering the sky

### Key Points

- The biggest defence PSU in India, Hindustan Aeronautics Limited (HAL), is involved in the design, development, production, overhaul, repair, and maintenance of a wide range of products, such as aeroplanes, helicopters, aero-engines, avionics, accessories, and aerospace structures.
- Given 1) its status as India's primary supplier of military aircraft, 2) the government's push for the purchase of domestic defence aircraft, 3) the advancement of HAL's technological capabilities due to the development of more advanced platforms (Tejas, AMCA, etc.), 4) a robust order book of Rs. 1.08 tn with a further 5-year pipeline of approximately Rs. 2 tn, and 5) improvements in profitability through scale and operating leverage, HAL is a play on the strength and modernization of India's air force.
- We project a 14.4%/16.2% Revenue/Adj. PAT CAGR for FY24E–26E. We recommend a Accumulate on HAL with a target price (TP) of Rs3,384 (29x FY26E EPS).

**Durable demand for modern indigenous military aircraft:** India only has 31 fighter jet squadrons, compared to the sanctioned total of 42 needed for the ongoing hostilities with China and Pakistan. The retirement of outdated aircraft like the Mirage, Jaguar, Mig-21, and Mig-29 will make this worse. HAL is in a prime position to profit from the long-term demand opportunity because of its monopolistic position in India's defence aerospace industry and the government's drive to acquire defence aircraft conceived and manufactured domestically. HAL is working on several significant projects to replace the different departing fleets, including helicopters - Light Utility helicopter: LUH, Light Combat Helicopter: LCH, Indian Multi-Role Helicopter: IMRH) and fighter jets (Tejas Mk2, Advanced Medium Combat Aircraft: AMCA, Twin engine deck based fighter: TEDBF).

**Another path to expansion is through exports:** HAL actively promotes its global business with its native line of LCA Tejas, Advanced Light Helicopter: ALH, LUH, and LCH. It recently inked a Memorandum of Understanding to provide Argentina's armed forces with light and medium utility helicopters. It also has advanced leads with Egypt and the Philippines. It has opened an office in Malaysia to foster communication with Southeast Asia.

**View & Valuation:** Based on the current order book, HAL is likely to post a topline CAGR of 14.4% over FY24E-26E and bottom line to improve at a CAGR of 16.2% over the same period. We assign a multiple at 29x +1 SD higher than the historical trend. We value HAL on 29xFY26E earnings and recommend 'ACCUMULATE' with a target price of Rs3,384, showing a 4% downside.

| | |
|---|---|
| Est Change | - |
| TP Change | - |
| Rating Change | - |

**Company Data and Valuation Summary**

| | |
|---|---|
| Reuters | HIAE.BO |
| Bloomberg | HNAL IN Equity |
| Market Cap (Rsbn / US$bn) | 2,368.1 / 28.4 |
| 52 Wk H / L (Rs) | 3,615 / 1,335 |
| ADTV-3M (mn) (Rs / US$) | 5,807.6 / 69.9 |
| Stock performance (%) 1M/6M/1yr | 10.1 / 84.8 / 161.1 |
| Nifty 50 performance (%) 1M/6M/1yr | 2.4 / 3.7 / 27.9 |

| Shareholding | 1QFY24 | 2QFY24 | 3QFY24 |
|---|---|---|---|
| Promoters | 71.6 | 71.6 | 71.6 |
| DIIs | 10.6 | 9.7 | 9.1 |
| FIIs | 11.9 | 12.6 | 12.9 |
| Others | 5.8 | 6.0 | 6.3 |
| Pro pledge | 0.0 | 0.0 | 0.0 |

| Top Shareholders | % of Company |
|---|---|
| HDFC Asset Management Co Ltd | 3.66 |
| Life Insurance Corp of India | 1.55 |
| FMR LLC | 1.38 |
| Vanguard Group Inc | 1.13 |
| Republic of Singapore | 1.03 |

**Financial and Valuation Summary**

| Particulars (Rsmn) | FY23 | FY24E | FY25E | FY26E |
|---|---|---|---|---|
| Net Sales | 2,69,275 | 2,93,565 | 3,36,430 | 3,84,516 |
| *Growth YoY (%)* | *9.4* | *9.0* | *14.6* | *14.3* |
| EBITDA | 72,766 | 72,217 | 84,786 | 1,02,981 |
| *EBITDA margin (%)* | *27.0* | *24.6* | *25.2* | *26.8* |
| Adj. PAT | 58,277 | 57,219 | 64,905 | 77,258 |
| Growth YoY (%) | *14.7* | *(1.8)* | *13.4* | *19.0* |
| EPS (Rs) | 87.1 | 85.7 | 97.2 | 115.7 |
| *RoE (%)* | *27.2* | *22.2* | *21.3* | *21.5* |
| EV/EBITDA | 29.8 | 30.4 | 26.0 | 21.3 |
| P/E (x) | 40.6 | 41.3 | 36.4 | 30.6 |

*Source: Bloomberg, Company, Nirmal Bang Institutional Equities Research*

**Key Links :**

FY23 Annual Report | 3QFY24Result

*Please refer to the disclaimer towards the end of the document.*

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## Company background

Established in 1963, Hindustan Aeronautics Limited (HAL) has since developed into a substantial aerospace complex in South Asia. Its exhaustive skill set includes designing, developing, manufacturing, maintaining, and upgrading transport aircraft, trainers, fighters, helicopters, engines, avionic systems, and accessories. It is the preeminent aerospace company. Defence Research & Development Organization (DRDO), Indian Air Force (IAF), Indian Army, Indian Navy, Indian Coast Guard, Indian Space Research Organization (ISRO), Mauritius Police Force (MPF), Boeing, and Airbus Industries are among the organizations that it supplies. Furthermore, having established a foothold in exports to over 20 countries, the organization has proven competitive in quality and price. HAL is a significant collaborator in ISRO's space initiatives. Additionally, it has expanded into the industrial and marine gas turbine industries.

Although HAL's principal function is designing, manufacturing, repairing, and overhauling aircraft and helicopters, the company is also involved in ISRO's satellite launch vehicle and DRDO's missile and unmanned aerial vehicle programs.

- HAL has conducted wind tunnel tests for the Nag anti-tank guided missile at its "low-speed closed circuit tunnel."
- HAL's aerospace division at Bangalore manufactures wing bays, aerofoil wings, propellant tanks, and aluminum warhead casings for the Prithvi ballistic missile. The Bangalore division's Engine Test Bed Research & Development Centre produces liquid-rocket engines for "Prithvi". The latter developed the PTAE-7 jet engine for the Lakshya pilotless target aircraft (PTA).
- HAL machined Prithvi's inertial measurement unit chassis, part of the inertial navigation hardware. The company's Kanpur division produces 50 mg and 100ppm-class accelerometers.
- The Hyderabad division of HAL manufactures components of Prithvi's servo control electronics, such as the hybrid servo controller unit. Other devices used in the electro-hydraulic actuation systems of the Prithvi, such as the bootstrap hydraulic reservoir, electro-hydraulic servo actuator, pump motor package, accumulator, pressure relief valve, and return valve, are manufactured at HAL's Lucknow division.

**Major Achievements 2022-23**

- The President of India, inaugurated HAL's state-of-the-art Integrated Cryogenic Engine Manufacturing Facility (ICMF) in Bengaluru on 27th Sep 2022. The facility will cater to the entire Rocket Engine Manufacturing process under one roof for ISRO.
- The Prime Minister dedicated HAL's New Helicopter Factory in Tumakuru to the nation and also unveiled HAL's indigenously designed and developed LUH on 6th Feb 2023.
- The Prime Minister unveiled HTT-40 the indigenous trainer aircraft designed and developed by HAL at the India Pavilion during DEFEXPO-2022 at Gandhinagar, Gujarat on 19th Oct 2022.
- HAL has supplied four LM2500 Gas Turbines to power India's first indigenously designed and built aircraft carrier, IAC-1 Vikrant, commissioned at Kochi as INS Vikrant.
- Completed the production of 15 Light Combat Helicopters (LCH) against the 15 LCH contract. HAL delivered 8 LCH ahead of the contract schedule. LCH – Prachand were inducted into IAF at Jodhpur in the presence of the Defence Minister Mr. Rajnath Singh on 3rd Oct 2022.
- HAL-L&T consortium bagged the Rs 8.6 bn contract on 5th Sep 2022 for end-to-end realisation of five Polar Satellite Launch Vehicles (PSLV) from the New Space India Limited (NSIL).

- HAL has exported one each of Do 228 PVD and ALH MK III to the Mauritius Police Force ahead of the contractual schedule.
- Marking a major milestone towards LCA MK1A program, the first flight of the LCA Mk1A prototype was conducted on 20th May 2022.
- The maiden arrested landing and ski-jump take-off from the indigenous aircraft carrier INS Vikrant was carried out by the LCA Navy MK1 aircraft on 6th Feb 2023.
- On April 4, 2022, HAL delivered the first set of hardware for the Gaganyaan mission (the first unmanned mission) and the 150th HAL-made Satellite Bus Structure to ISRO.
- On November 15, 2022, HAL handed over the last of the 16 Advanced Light Helicopters (Maritime role) order to the Indian Coast Guard (ICG). The ICG also issued a Letter of Intent (LoI) for nine more helicopters.

**Exhibit 1: Key milestones of the company:**

| | |
|---|---|
| 1940 | • Incorporated on December 23, 1940 |
| 1963 | • Manufacture MiG-21 aircraft |
| 1970 | • Manufacture 'Chetak' and 'Cheetah' Helicopters |
| 2014 | • LCA Tejas division was established at Bengaluru |
| 2018 | • On March 28, 2018, HAL was listed on BSE and NSE |
| 2021 | • HAL and Rolls-Royce have signed an agreement for Make-in-India Adour engine parts |
| 2023 | • Produce fighter jet engines with GE Aerospace |

*Source: Company, Nirmal Bang Institutional Equities Research*

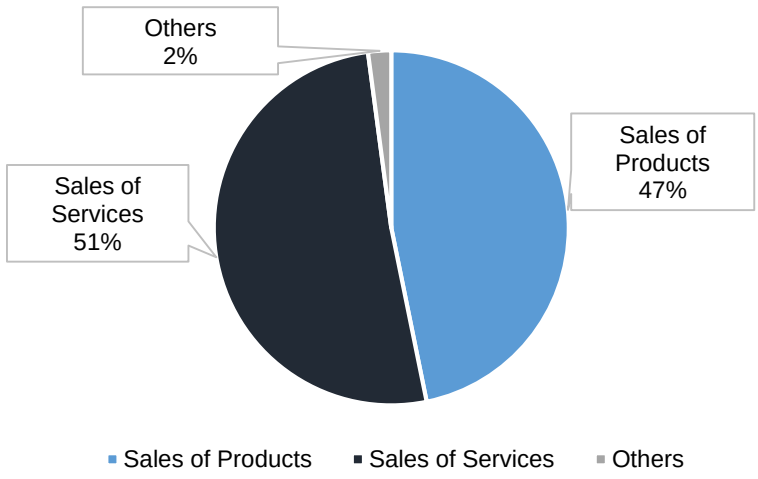
## Investment Argument:

The 5 year CAGR for revenue/EBIDTA/PAT was 8%/16%/24% from FY18-23. NBIE estimates revenue/EBIDTA/PAT of 14%/19%/16% for FY24-26E supported by arguments below

- The Defence Sector is expected to continue growing in FY24 as due to global geopolitical conflicts, many countries have significantly increased defence budgets to strengthen their military capabilities. As per an industry report ***(source: HAL annual report)***, the global Aerospace & Defence market is expected to grow from USD796 bn in 2022 to USD855 bn in 2023, at a growth rate of 7.4%. The growth is mainly driven by companies recovering their operations from the COVID-19 impact, and defence budget allocations in various countries.
- Globally, supply chain disruptions and delays have made OEMs look for local raw materials and components sources. Additionally, OEMs are moving more and more towards digital technologies and smart factories to achieve efficiencies. As per estimates, the global Aerospace & Defence (A&D) market is expected to reach USD1,076bn by 2027.
- The Defence Sector dominates the Indian A&D Industry. The major players in the Indian A&D industry are Defence Public Sector Undertakings (DPSUs). Therefore, defence projects, policies, and government funding play a crucial role in developing the A&D industry in India. Under the "Aircraft and Aero-engine" category, the Indian Army has received an allocation of Rs55bn, the Indian Navy has received an allocation of Rs70bn. The Indian Air Force has received an allocation of Rs157bn, summing up to a total allocation of Rs2bn, in addition to revenue budget provisions for maintenance, repair & overhaul.
- HAL can cater to a wide spectrum of the aerospace industry, which includes R&D, Production, and MRO of Fixed-wing and Rotary-wing Aircraft, Aeroengines, LRUs (Line-replaceable unit), and airborne systems. It has expertise in aircraft upgrades, including avionics upgrades and weapon system integration. HAL has successfully absorbed the ToT for MiG-21, MiG-27, Su 30MKI, Jaguar, Dornier-228, and AVRO (Avro Hawker Siddeley HS748).

With a robust order pipeline for HAL, revenue visibility is clear for the future. The company's management has given guidance for revenue growth of ~10%-15% for FY24-26.

**Exhibit 2: Revenue breakdown for FY23**



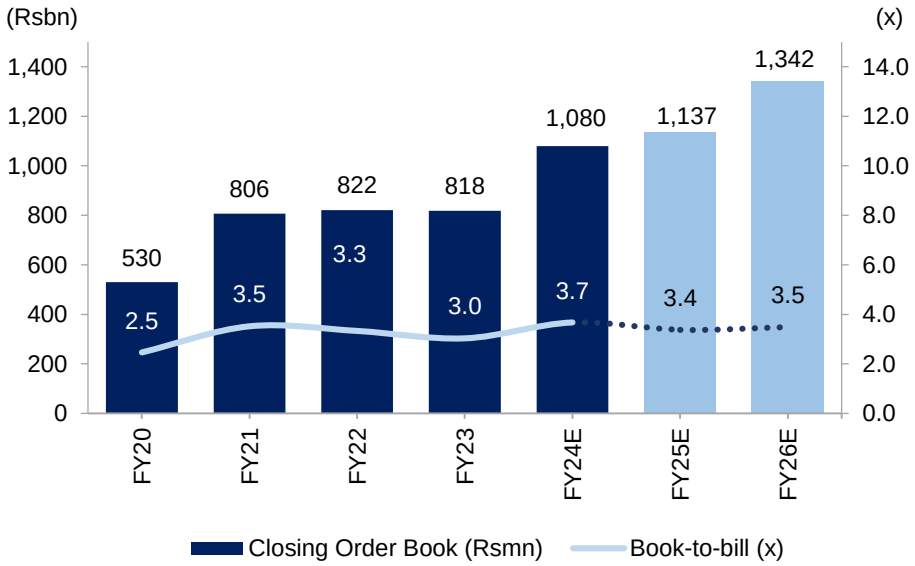

*Source: Company, Nirmal Bang Institutional Equities Research*

**Exhibit 3: Revenue Break-up:**

| Revenue (Rs mn) | FY21 | FY22 | FY23 | FY24E | FY25E | FY26E |
|---|---|---|---|---|---|---|
| Total Sale of Products | 1,35,844 | 1,20,971 | 1,26,028 | 1,46,782 | 1,71,579 | 1,99,949 |
| Contribution | 59% | 49% | 47% | 50% | 51% | 52% |
| | | | | | | |
| Total Sales of Services | 87,845 | 1,22,644 | 1,37,578 | 1,40,911 | 1,58,122 | 1,76,878 |
| Contribution | 38% | 50% | 51% | 48% | 47% | 46% |
| | | | | | | |
| Other Operating Revenues | 5,135 | 2,586 | 5,669 | 5,871 | 6,729 | 7,690 |
| Contribution | 2% | 1% | 2% | 2% | 2% | 2% |
| Total Revenue from Operations | 2,28,823 | 2,46,200 | 2,69,275 | 2,93,565 | 3,36,430 | 3,84,516 |

*Source: Company, Nirmal Bang Institutional Equities Research*

**Exhibit 4: Robust order book status**



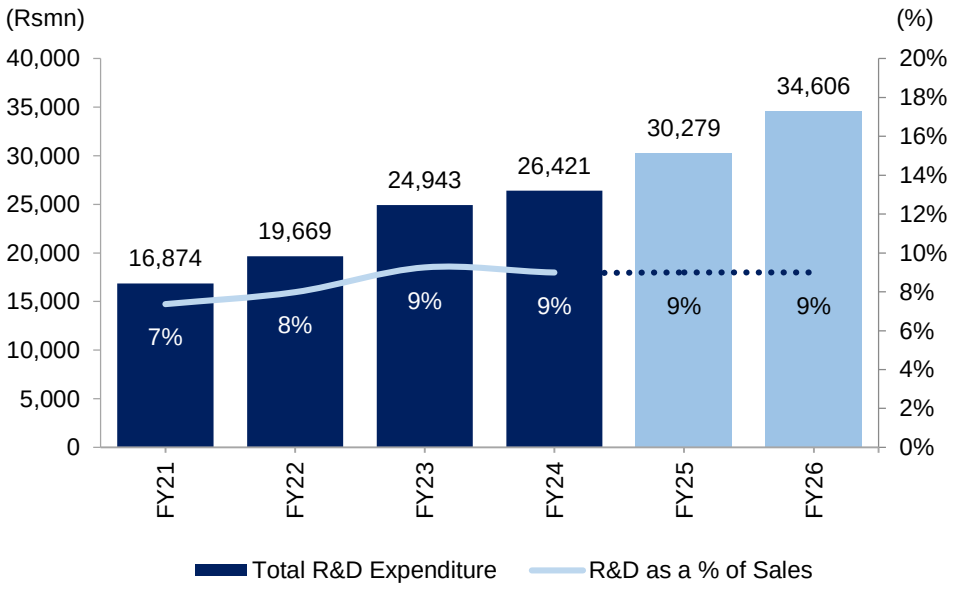

*Source: Company, Nirmal Bang Institutional Equities Research*

HAL order book status for FY23 was Rs 818 bn where majority consist of manufacturing contracts of aircrafts which of Rs 605bn (74% of the total) followed by repair and overhaul. The contract for RD-33 Aero Engines for MiG-29 aircraft has been signed with HAL at a cost of Rs 52.4bn. The Koraput Division of HAL will produce these aero-engines. These Aero Engines are expected to fulfill the need of the Indian Air Force (IAF) to sustain the operational capability of the MiG-29 fleet for the residual service life. The aero-engines will be manufactured under Transfer of Technology (TOT) license from the Russian OEM. The program will focus on the indigenization of several high-value critical components, which would help increase the indigenous content of future Repair and Overhaul (ROH) tasks of RD-33 aero-engines. We anticipate that the order book of HAL will reach Rs 1.3 tn by FY26.

**HAL's Strategic Investments: Empowering Atmanirbhar Bharat**

In order to maintain state-of-the-art infrastructure and technologies to meet Aerospace Standards, as well as to develop systems/platforms to meet the requirements of the Defence Forces and to contribute to Atmanirbhar Bharat, HAL has incurred Capital Expenditure (CxAPEX) of Rs 20.8 bn in FY 2022-23 (compared to Rs 16.2 bn in the previous year). The investments are mainly directed towards the Green Field Helicopter project at Tumakuru, augmentation of facilities for LCA, ROH of SU-30, ROH of AL-31 FP Engine, etc., besides the regular replacement and rationalization of existing facilities.

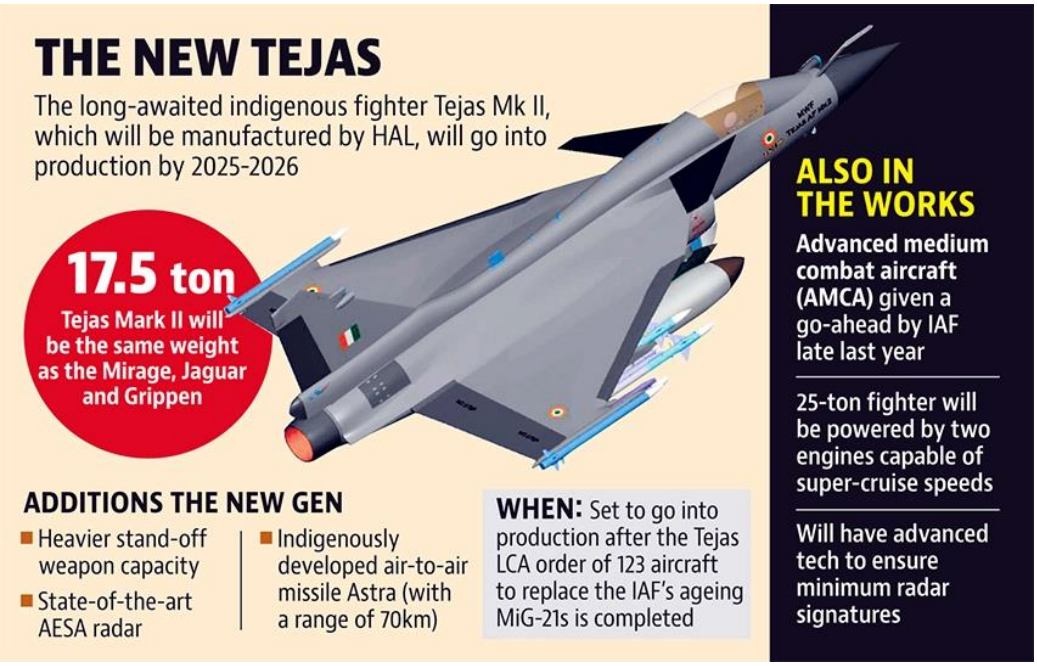
**Exhibit 5: HAL's Flight to Success: R&D Growth Trajectory**




*Source: Company, Nirmal Bang Institutional Equities Research*

The five-year CAGR of R&D expense is 16.1%. We estimate that HAL will maintain 9% of its sales in R&D in FY25-26. HAL is jointly working with premier R&D organizations like DRDO laboratories, CSIR-NAL and CIPET towards self-reliance in the aviation field. The company also works closely with premier educational institutes and has established chairs at IIT Madras, IIT Roorkee, IIT Kharagpur, IIT Bombay, IIT Kanpur, and IISc Bangalore, to enhance its R&D efforts. HAL has achieved major progress in various R&D / Development Projects viz. Light Combat Aircraft (LCA), Hindustan Turboprop Trainer Aircraft (HTT-40), ALH-WSI (Rudra), Light Combat Helicopter (LCH), Light Utility Helicopter (LUH), Jaguar Darin III Upgrade, Mirage 2000 Upgrade, Hawk-i, 25 KN Turbofan Engine (HTFE-25), 1200 KW Turboshaft Engine (HTSE-1200)and Mini UAV (8 Kg Class). In FY23 HAL has filed 114 IPR applications which makes the cumulative number of IPRs filed by the Company to 1533. During the year, 54 IPRs have been granted and the cumulative IPRs held by the company are 108 (as of March 2018)

**Exhibit 6: India's Next Generation Fighter Aircraft**




*Source: drishtiias.com*

**LCA-Mk2:** It is a 4.5 generation aircraft which will be used by the Indian Air Force. It is a replacement for the Mirage 2000 class of aircraft. It has got a bigger engine and can carry 6.5 tonnes of payload. The technology is already developed in Light Combat Aircraft (LCA). The LCA programme began in the 1980s to replace India's ageing MiG-21 fighters.

The LCA is being designed and developed with ADA as the nodal agency and State-owned Hindustan Aeronautics Limited (HAL) being the principal partner. Its production is likely to start somewhere around 2025.

**Variants of Tejas:**

- Tejas Trainer: 2-seater operational conversion trainer for training air force pilots.
- LCA Navy: Twin- and single-seat carrier-capable for the Indian Navy.
- LCA Tejas Navy MK2: This is phase 2 of the LCA Navy variant.
- LCA Tejas Mk-1A: This is an improvement over the LCA Tejas Mk1 with a higher thrust engine (Air Force).
- LCA Tejas Mk-2: Following the Mk-1A is the Mk-2 which will provide a high degree of manoeuverability.

**Advanced Medium Combat Aircraft (AMCA):** It is a fifth generation aircraft. And will be used by the Indian Air Force. It is a stealth aircraft, i.e. designed for stealth and unlike the LCA, which is designed for maneuverability. It has a unique shape to achieve low radar cross-section and has an internal carriage of weapons. When the external weapons are removed, this aircraft has enough fuel and weapons inside to do a very capable operational role in stealth mode.

**Range:** Over 1,000 km up to 3,000 km in different modes.

**Variants and Engine:** It has two variants Mk-1 and Mk-2, While AMCA Mk-1 will have an imported engine, same as LCA Mk-2, the AMCA Mk-2 will have an indigenous engine.

**Manufacturing:** The manufacturing and production of the aircraft will be through a Special Purpose Vehicle (SPV), which will also have participation of private industry.

## A reputable and experienced Management Team

### Shri C B Ananthakrishnan, CMD

He is a Commerce Graduate and Post Graduate in Business Administration from Madras University, received management and leadership training from Indian Institute of Management, Ahmedabad and Institut Aeronautique et. Spatiale (IAS)Toulouse, France. He has over 36 years of work experience in both public and private sectors with stints in merchant banking, pharmaceuticals, fertilizers and Aerospace Industries.

### Shri Jayadeva E. P, Director (Operations)

He holds a bachelor's degree in Electrical Engineering from University Visvesvaraya College of Engineering, Bangalore and did Masters from IIT, Madras in Aircraft Production Engineering, He has about 34 years of experience in the areas of Manufacturing, Assembly, Overhaul, Upgrades, Customer support, Indigenization and other Management functions.

### Dr. D. K. Sunil, Director (Engineering and R & D)

"He is a graduate in Electronics & Communication Engineering from Osmania University, Hyderabad and M. Tech in Aircraft Production Engineering from IIT, Madras. He was awarded Ph.D in Electronics Science from University of Hyderabad in 2019. He joined Hindustan Aeronautics Limited (HAL) in 1987 as a Management Trainee, and has about 35 years of experience in various key positions.

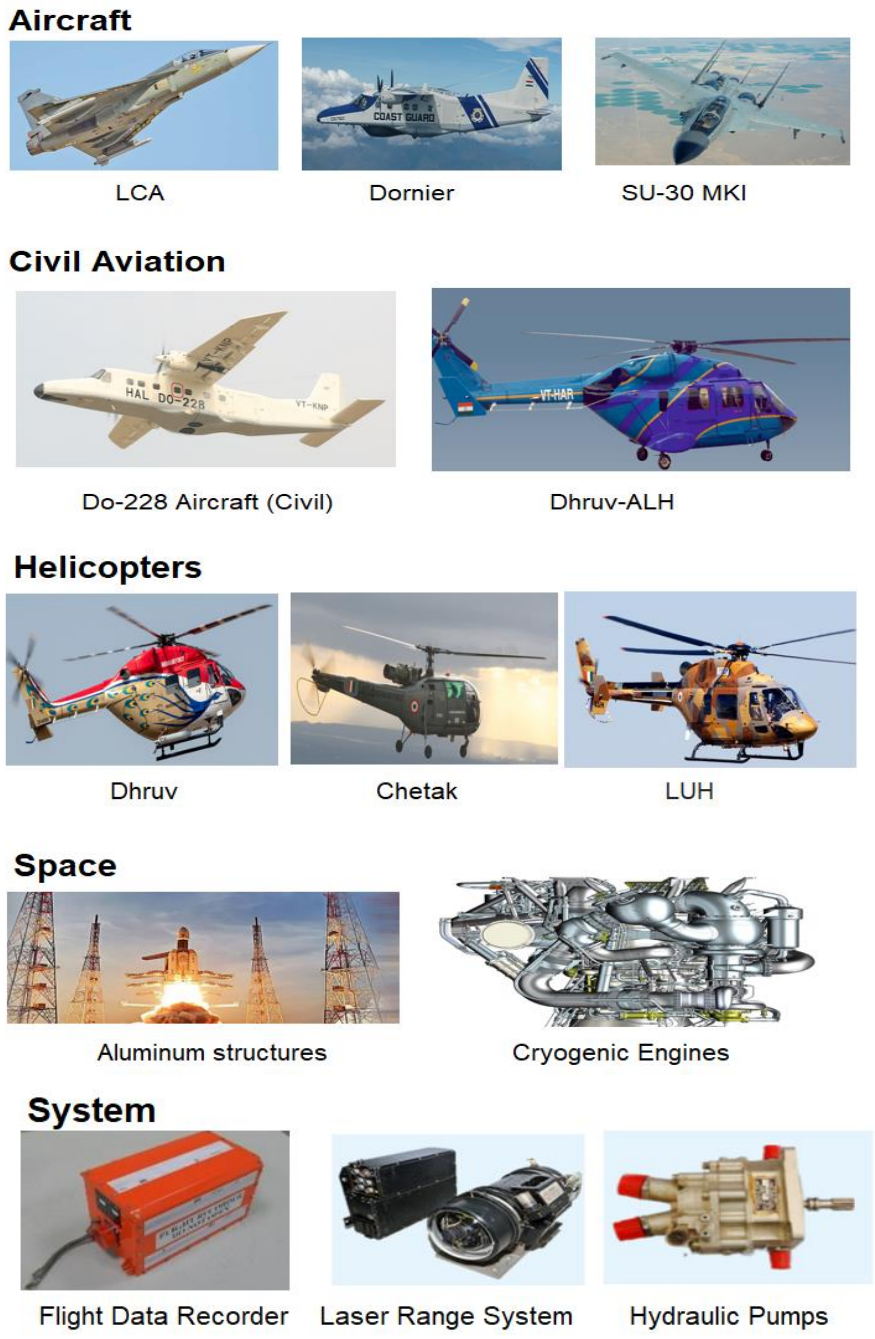
**Exhibit 7: Operating over 20 production units and 10 research and development centers over 9 locations in 7 states**


*Source: Company, Nirmal Bang Institutional Equities Research*

- Bangalore Complex (BC): Production and ROH of Fixed-wing Aircraft and Engines (Indian and Western origin), Spacecraft Structures, Castings, Forgings & Rolled Rings.

- MiG Complex (MC): Production and ROH of Fixedwing Aircraft and Engines (mainly Russian origin), Civil MRO and UAV Projects.
- Helicopter Complex (HC): Production and ROH of Helicopters (Indian and Western origin).
- Accessories Complex (AC): Production and ROH of Transport Aircraft. Production and ROH of Accessories and Avionics for Fixed-wing and Rotarywing Platforms (Indian, Russian and Western origin). Depot Level Maintenance of UAVs.
- Design Complex (DC): R&D of Fixed-wing and Rotarywing Aircraft, Unmanned Aerial Vehicles (UAV), Aeroengines, Avionics and Accessories.

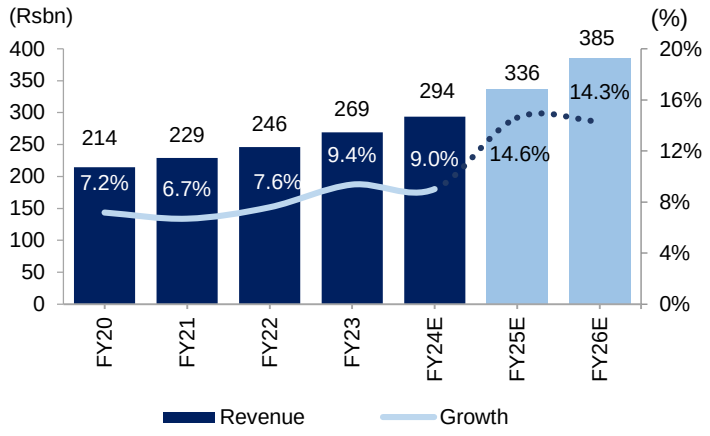
**Exhibit 8: HAL Products Portfolio**




*Source: Company, Nirmal Bang Institutional Equities Research*

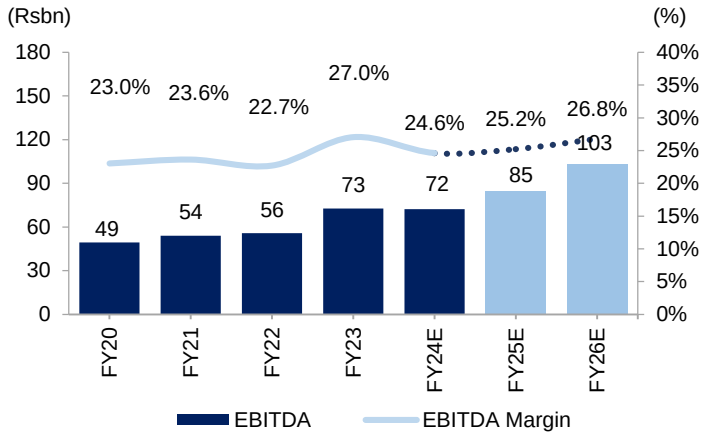
## HAL: Key Performance Indicators

**Exhibit 9: Revenues CAGR to improve to 14% in FY24-26**



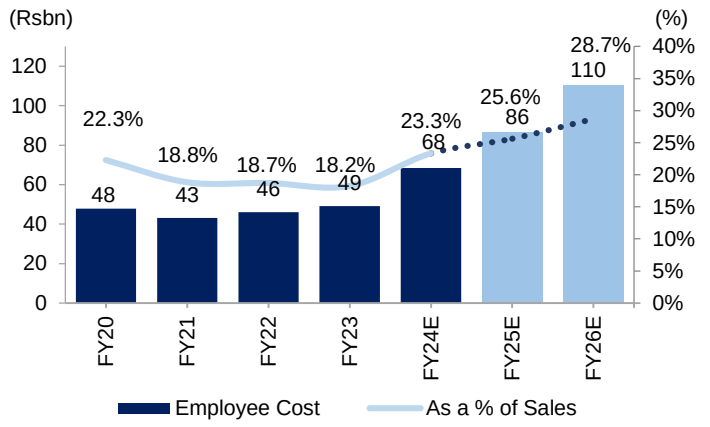

*Source: Company, Nirmal Bang Institutional Equities Research*

**Exhibit 10: Margins to be better than historical trend**



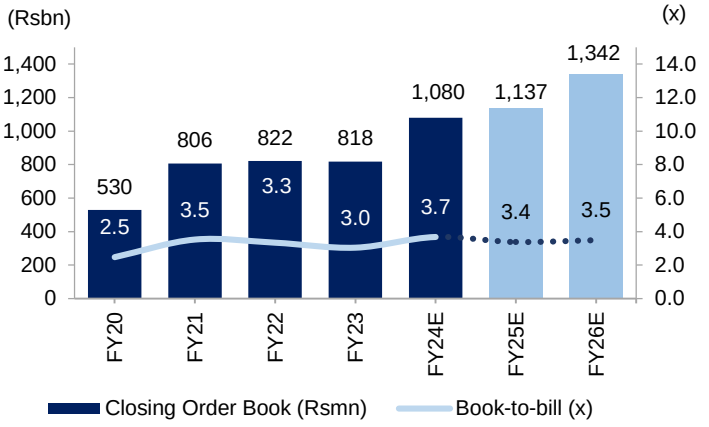

*Source: Company, Nirmal Bang Institutional Equities Research*

**Exhibit 11: Demand for skill manpower to increase**



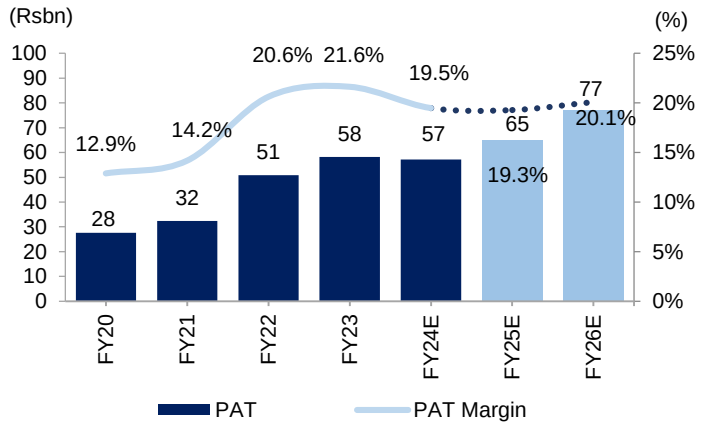

*Source: Company, Nirmal Bang Institutional Equities Research*

**Exhibit 12: Indigenization to bolster order book**



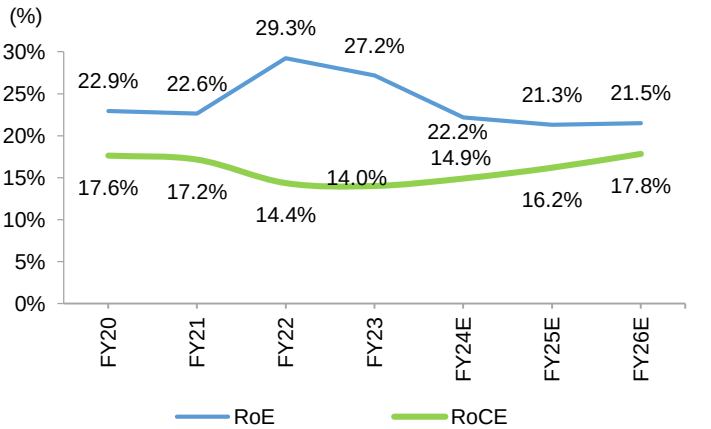

*Source: Company, Nirmal Bang Institutional Equities Research*

**Exhibit 13: PAT margins to stabilize post FY26**




*Source: Company, Nirmal Bang Institutional Equities Research*

**Exhibit 14: Return Ratios to improve post FY26**




*Source: Company, Nirmal Bang Institutional Equities Research*

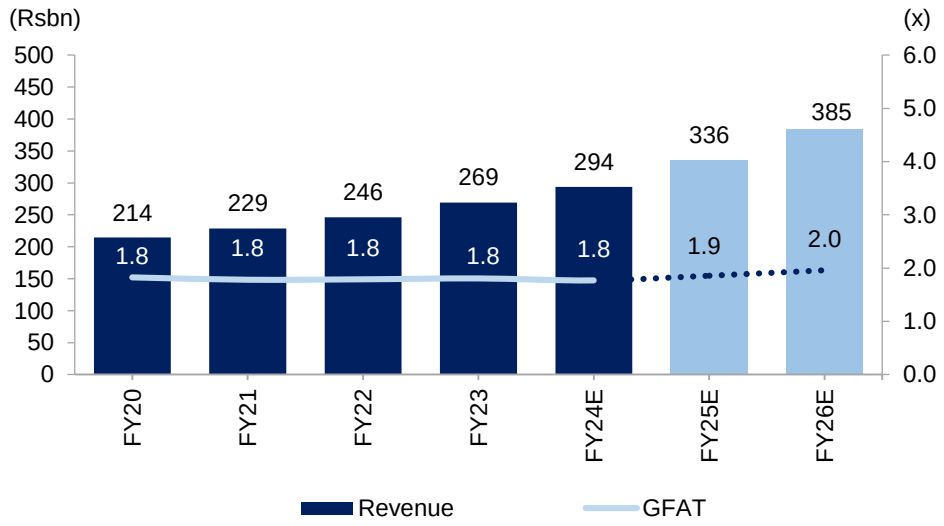
**Exhibit 15: Cash Conversion Cycle Trends**

| Cash Conversion Cycle | FY20 | FY21 | FY22 | FY23 | FY24E | FY25E | FY26E |
|---|---|---|---|---|---|---|---|
| Debtor Days | 217 | 137 | 76 | 63 | 63 | 63 | 63 |
| Inventory Days | 762 | 587 | 564 | 479 | 430 | 400 | 390 |
| Payable Days | 130 | 103 | 88 | 103 | 102 | 104 | 106 |
| **CCC** | **848** | **621** | **552** | **439** | **391** | **359** | **347** |

The cash conversion cycle has declined from 848 days to 439 days in FY23 due to execution of contracts and we expect the trend to continue in the forecasted years.

*Source: Company, Nirmal Bang Institutional Equities Research*

**Exhibit 16: Higher revenue to offset expansion plans**




HAL has incurred Capital Expenditure (CAPEX) of Rs 20.8 bn in FY 2022-23 (compared to Rs 16.2 bn in the previous year). We anticipate that HAL will maintain a CAPEX of 16bn till FY26.

*Source: Company, Nirmal Bang Institutional Equities Research*

## View and Valuation:

Considerably larger new orders imply a rapid acceleration of the defence pipeline. This might help HAL maintain a continuous order book ramp-up, justifying higher valuations comparable to industrial players. We anticipate a revenue/EBITDA/PAT CAGR of 14.4%/19.4%/16.2% in FY24E-26E We assign a multiple at 29x +1 SD higher than the historical trend. We begin with an "Accumulate" with a target of Rs 3,384, valuing it at March'26 EPS.

**Exhibit 17: Valuation summary.**

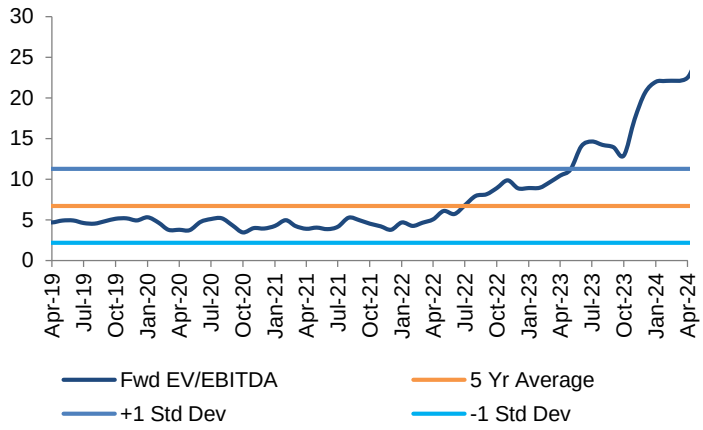
| Particulars | (Rs mn) |
|---|---|
| March'26E EPS | 117 |
| Target multiple (x) | 29.0 |
| **Target price (Rs)** | **3,384** |
| CMP (Rs ) | 3,541 |
| **Upside / (downside) %** | **-4%** |

*Source: Company, Nirmal Bang Institutional Equities Research*

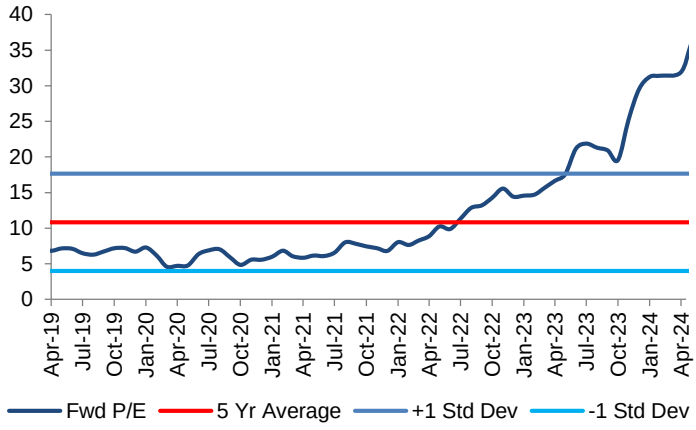
**Key Risks:**

- **Limited Client Base:** The company relies heavily on contracts from the Ministry of Defence (MoD), posing a risk in case of any changes in government policy or budget allocations.
- **Extended Working Capital Cycle:** HAL faces challenges with a high working capital cycle, as inventory tends to remain for extended periods, potentially impacting cash flow and liquidity.
- **Lack of Market Competition:** With limited competition in its sector, HAL may experience reduced efficiency and innovation compared to industries with higher market competition.
- **High Employee Costs:** The company bears significant employee costs, which could strain profitability, especially during events like strikes for salary hikes, as witnessed recently.
- **Export Order Challenges**: HAL faces hurdles in increasing export orders due to past negative experiences, such as the incident where India-made Dhruv Chopper was grounded in Ecuador, highlighting concerns about product quality and reliability.
- **Overly Diversified Portfolio:** HAL's extensive diversification across sectors, ranging from aircraft manufacturing to space missions with ISRO, may dilute its focus and operational efficiency.
- **Dependence on Foreign Aircraft:** Indian military aviation predominantly relies on foreign aircraft or license-built aircraft, posing challenges for HAL to compete in a market dominated by established international players.

**Exhibit 18: Rolling valuation charts**




*Source: Company, Nirmal Bang Institutional Equities Research*




*Source: Company, Nirmal Bang Institutional Equities Research*

## Financial Statements

### Exhibit 18: Income statement

| Y/E March (Rs mn) | FY22 | FY23 | FY24E | FY25E | FY26E |
|---|---|---|---|---|---|
| **Net Sales** | **2,46,200** | **2,69,275** | **2,93,565** | **3,36,430** | **3,84,516** |
| Raw Material Consumed | 87,522 | 99,937 | 1,20,930 | 1,31,325 | 1,27,652 |
| Purchase of Traded Goods | 6,567 | 7,992 | 7,015 | 7,755 | 8,863 |
| Changes in Inventory | 5,923 | (6,907) | (2,827) | (6,153) | (7,033) |
| Employee Cost | 46,044 | 49,104 | 68,489 | 86,199 | 1,10,403 |
| Other expenses | 44,294 | 46,384 | 27,740 | 32,519 | 41,650 |
| Total Expenditure | 1,90,350 | 1,96,509 | 2,21,348 | 2,51,644 | 2,81,536 |
| **Operating profit** | **55,850** | **72,766** | **72,217** | **84,786** | **1,02,981** |
| *Operating profit margin (%)* | *22.7* | *27.0* | *24.6* | *25.2* | *26.8* |
| Other Income | 9,849 | 16,701 | 19,130 | 16,851 | 16,503 |
| Interest | 582 | 580 | 431 | 581 | 581 |
| Depreciation | 12,870 | 23,821 | 14,653 | 14,639 | 15,973 |
| PBT | 52,248 | 65,066 | 76,263 | 86,416 | 1,02,930 |
| Exceptional items | - | - | - | - | - |
| PBT post exc items | 52,248 | 65,066 | 76,263 | 86,416 | 1,02,930 |
| Tax | 1,447 | 6,818 | 19,258 | 21,777 | 25,938 |
| *Tax rate (%)* | *2.8* | *10.5* | *25.3* | *25.2* | *25.2* |
| PAT | 50,800 | 58,277 | 57,219 | 64,905 | 77,258 |
| **Adj PAT** | **50,800** | **58,277** | **57,219** | **64,905** | **77,258** |
| **EPS (Rs)** | **76.0** | **87.1** | **85.7** | **97.2** | **115.7** |

*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 19 Cash flow

| Y/E March (Rs mn) | FY22 | FY23 | FY24E | FY25E | FY26E |
|---|---|---|---|---|---|
| Profit before tax | 52,248 | 65,066 | 76,263 | 86,416 | 1,02,930 |
| Add: Depreciation & Impairment | 12,870 | 23,821 | 14,653 | 14,639 | 15,973 |
| Less: Exceptional Item | - | - | - | - | - |
| Cash flow from operations before WC | 98,208 | 1,11,310 | 91,561 | 1,01,902 | 1,19,750 |
| Net change in Working capital | 12,654 | 4,515 | (28,772) | (5,158) | (3,358) |
| Tax paid | (10,532) | (27,557) | (19,258) | (21,777) | (25,938) |
| **Net cash from operations** | **1,00,330** | **88,269** | **43,531** | **74,968** | **90,454** |
| Capital expenditure | (7,993) | (7,824) | (16,198) | (16,440) | (16,912) |
| Free Cash Flow | 92337 | 80444 | 27333 | 58527 | 73542 |
| Others | (1,19,602) | (49,456) | (48,804) | (48,158) | (47,516) |
| **Net cash from investing** | **(1,27,595)** | **(57,280)** | **(65,002)** | **(64,598)** | **(64,428)** |
| Issue of shares | - | - | - | - | - |
| Increase in debt | (91) | (37) | - | - | - |
| Dividends paid incl. tax | (13,376) | (16,719) | (13,133) | (14,897) | (17,732) |
| Interest paid | (24) | (557) | (431) | (581) | (581) |
| Others | (2) | 29 | - | - | - |
| **Net cash from financing** | **(13,493)** | **(17,284)** | **(13,564)** | **(15,478)** | **(18,313)** |
| Net Cash | (40,758) | 13,704 | (35,035) | (5,108) | 7,713 |
| Opening Cash | 71,462 | 30,704 | 44,408 | 9,373 | 4,265 |
| **Closing Cash** | **30,704** | **44,408** | **9,373** | **4,265** | **11,977** |

*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 20: Balance sheet

| Y/E March (Rs mn) | FY22 | FY23 | FY24E | FY25E | FY26E |
|---|---|---|---|---|---|
| Equity Capital | 3,344 | 3,344 | 3,344 | 3,344 | 3,344 |
| Other Equity | 1,89,787 | 2,32,378 | 2,76,464 | 3,26,472 | 3,85,998 |
| Minority interest | 38 | 37 | 37 | 37 | 37 |
| Networth | 1,93,169 | 2,35,759 | 2,79,845 | 3,29,853 | 3,89,379 |
| Total Debt | 23,808 | 26,371 | 26,371 | 26,371 | 26,371 |
| Deferred tax liability | - | - | - | - | - |
| Other non current liabilities | 1,35,255 | 1,22,731 | 1,22,731 | 1,22,731 | 1,22,731 |
| Trade Payables | 25,576 | 31,350 | 34,965 | 37,875 | 37,603 |
| Other Current Liabilities | 2,06,113 | 2,55,827 | 2,43,827 | 2,29,827 | 2,15,827 |
| **Total liabilities** | **5,83,920** | **6,72,038** | **7,07,739** | **7,46,658** | **7,91,912** |
| PPE | 59,276 | 57,986 | 64,864 | 65,624 | 65,494 |
| CWIP | 9,491 | 6,369 | 6,687 | 7,289 | 7,945 |
| Investment property | 0.3 | 0.3 | 0.3 | 0.4 | 0.4 |
| Intangible assets under development | 15,238 | 12,481 | 12,793 | 13,113 | 13,441 |
| Intangible Assets | 8,383 | 10,358 | 17,518 | 18,439 | 19,386 |
| Investments | 1,678 | 1,683 | 1,683 | 1,683 | 1,683 |
| Deferred Tax Assets | 5,656 | 11,257 | 11,257 | 11,257 | 11,257 |
| Other Non-Current Assets | 34,261 | 53,053 | 54,114 | 55,197 | 56,300 |
| Inventories | 1,43,473 | 1,21,487 | 1,47,399 | 1,45,673 | 1,38,351 |
| Trade receivables | 46,415 | 47,191 | 51,025 | 58,475 | 66,833 |
| Cash & Near-Cash Items | 30,704 | 44,408 | 9,373 | 4,265 | 11,977 |
| Other Current Assets | 2,29,264 | 3,05,684 | 3,30,943 | 3,65,562 | 3,99,161 |
| Asset held For Sale | 81 | 81 | 81 | 81 | 81 |
| **Total Assets** | **5,83,920** | **6,72,038** | **7,07,739** | **7,46,658** | **7,91,912** |

*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 21: Key ratios

| Y/E March | FY22 | FY23 | FY24E | FY25E | FY26E |
|---|---|---|---|---|---|
| **Growth (%)** | | | | | |
| Sales | 7.6 | 9.4 | 9.0 | 14.6 | 14.3 |
| Operating Profits | 3.4 | 30.3 | -0.8 | 17.4 | 21.5 |
| Net Profits | 56.6 | 14.7 | -1.8 | 13.4 | 19.0 |
| **Leverage (x)** | | | | | |
| Net Debt: Equity | (0.74) | (0.86) | (0.60) | (0.49) | (0.44) |
| Interest Cover(x) | 73.8 | 84.4 | 133.6 | 120.7 | 149.8 |
| Total Debt/EBITDA | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Profitability (%)** | | | | | |
| OPM | 22.7 | 27.0 | 24.6 | 25.2 | 26.8 |
| NPM | 20.6 | 21.6 | 19.5 | 19.3 | 20.1 |
| ROE | 29.3 | 27.2 | 22.2 | 21.3 | 21.5 |
| ROCE | 14.4 | 14.0 | 14.9 | 16.2 | 17.8 |
| **Turnover ratios (x)** | | | | | |
| GFAT | 1.8 | 1.8 | 1.8 | 1.8 | 1.9 |
| Debtors Turnover(x) | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| WC days | 552 | 439 | 391 | 359 | 347 |
| **Valuation (x)** | | | | | |
| P/E | 46.6 | 40.6 | 41.3 | 36.4 | 30.6 |
| P/B | 12.3 | 10.0 | 8.5 | 7.2 | 6.1 |
| EV/EBIDTA | 39.8 | 29.8 | 30.4 | 26.0 | 21.3 |

*Source: Company, Nirmal Bang Institutional Equities Research*

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# Mazagon Dock Shipbuilders Ltd (MDSL)

Defence | Initiating Coverage

**BUY**

**CMP: Rs2,195 | Target Price (TP): Rs2,786 | Upside: 27%**

**April 5, 2024**

## Championing the Sea

### Key Points

- Mazagon Dock Shipbuilders Ltd. (MDSL) has grown from a single-unit, modest ship repair firm to a multi-unit, multi-product corporation, making it one of India's top shipbuilding yards. It was one of the first shipyards in India to produce corvettes (Veer & Khukri Class) and is the only shipyard in the country to have constructed destroyers and conventional submarines for the Indian Navy.
- As of March'24, MDSL had a healthy order backlog of Rs 414 bn (5.3 times FY23 sales), driven primarily by three significant contracts: Project-17A frigates, Project-15B destroyers, and Project-75 submarines.
- The Defence Acquisition Council (DAC) approved the purchase of 8 next-generation corvettes, and an RFP for the same is anticipated to be released in FY24. The deal is expected to be for Rs 3.6 tn, split between two shipyards.
- We expect a revenue/EBITDA/PAT CAGR of 25%/21%/14% in FY24E-26E. Given the strong order book and revenue visibility, we assign a higher multiple at 28x which is above the average one year P/E. We initiate a "BUY" with a target of Rs 2,786, valuing it at 28x March'26 EPS.

**Sector View:** As the government seems dedicated to lowering imports and boosting the indigenization of critical defence platforms, systems, and supporting equipment necessary for these platforms, the Indian defence industry is going through a significant transformative period. 144 subsystems and components out of the 1,238 notified for indigenization are employed in MDSL-manufactured warships and submarines. In the upcoming time frame, faster execution is anticipated, driven primarily by domestic production of big platforms (submarines, surface warships) and related sub-systems and components.

**Execution capabilities:** The Indian Navy's primary programs include next-generation destroyers, frigates, conventional submarines, and next-generation corvettes. MDSL is India's only shipyard that builds destroyers and conventional submarines for the Indian Navy. Successive bids from the Defence Ministry can potentially increase MDSL's order book and income visibility. The company is working on 7 projects, including building 15 ships for the Navy, Coast Guard, and others. While the corporation can pass on the cost, abrupt increases in raw material costs, such as steel and energy, can impact profitability.

**View & Valuation:** Robust order book position >5x the revenue with management's greater emphasis on domestic sales, we expect a revenue/EBITDA/PAT CAGR of 25%/21%/14% in FY24E-26E. Given this strong order book and revenue visibility and healthy balance sheet, we assign a higher multiple at 28x which is above the average one-year P/E. We initiate a "BUY" with a target of Rs 2,786, valuing it at 28x March'26 EPS.

| | |
|---|---|
| Est Change | - |
| TP Change | - |
| Rating Change | - |

**Company Data and Valuation Summary**

| | |
|---|---|
| Reuters | MAZG.BO |
| Bloomberg | MAZDOCKS IN |
| Market Cap (Rsbn / US$bn) | 442.8 / 5.3 |
| 52 Wk H / L (Rs) | 2,492 / 658 |
| ADTV-3M (mn) (Rs / US$) | 2,841.2 / 34.2 |
| Stock performance (%) 1M/6M/1yr | 4.3 / 3.1 / 234.1 |
| Nifty 50 performance (%) 1M/6M/1yr | 2.4 / 3.7 / 27.9 |

| Shareholding | 1QFY24 | 2QFY24 | 3QFY24 |
|---|---|---|---|
| Promoters | 84.8 | 84.8 | 84.8 |
| DIIs | 0.6 | 0.4 | 0.4 |
| FIIs | 3.3 | 3.7 | 3.3 |
| Others | 11.3 | 11.1 | 11.4 |
| Pro pledge | 0.0 | 0.0 | 0.0 |

| Top Shareholders | % of Company |
|---|---|
| Life Insurance Corp of India | 0.58 |
| SBI Funds Management Ltd | 0.17 |
| Government of Singapore | 0.12 |
| ICICI Prudential Asset Management | 0.08 |
| Vanguard Group Inc | 0.07 |

**Financial and Valuation Summary**

| Particulars (Rsmn) | FY23 | FY24E | FY25E | FY26E |
|---|---|---|---|---|
| Net Sales | 78,272 | 96,887 | 1,15,977 | 1,52,387 |
| *Growth YoY (%)* | *36.5* | *23.8* | *19.7* | *31.4* |
| EBITDA | 7,978 | 11,773 | 14,370 | 17,205 |
| *EBITDA margin (%)* | *10.2* | *12.2* | *12.4* | *11.3* |
| Adj. PAT | 11,190 | 15,328 | 17,176 | 20,071 |
| *Growth YoY (%)* | *87.5* | *37.0* | *12.1* | *16.9* |
| EPS (Rs) | 55.5 | 76.0 | 85.2 | 99.5 |
| *RoE (%)* | *26.0* | *28.9* | *26.6* | *25.8* |
| EV/EBITDA | 38.9 | 24.7 | 19.0 | 15.2 |
| P/E (x) | 39.6 | 28.9 | 25.8 | 22.1 |

*Source: Bloomberg, Company, Nirmal Bang Institutional Equities Research*

**Key Links :**

FY23 Annual Report | 3QFY24Result

*Please refer to the disclaimer towards the end of the document.*

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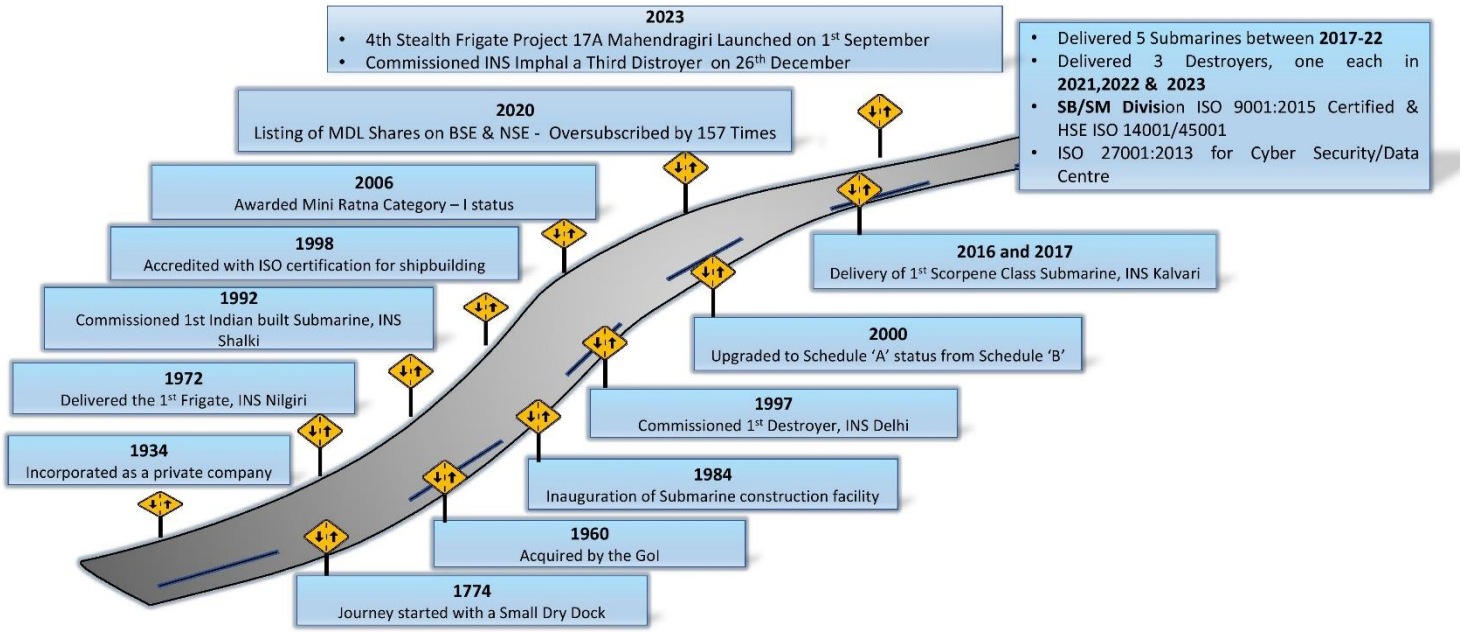
## Company background

Mazagon Dock Shipbuilders Limited (MDSL) is one of India's largest DPSUs that operates shipyards under the Ministry of Defence. Mazagon Dock's history begins in 1774, when a small dry dock was constructed at Mazagon. It was established as a Private Limited Company in 1934. Its workshops and facilities in Mumbai and Nhava mainly produce warships and submarines, as well as ship repairs and refits. In addition to providing a wide range of shipbuilding, ship repair, and ship refit services, it is well-positioned to enter global markets for marine platforms and heavy engineering items due to its increased capacity and well-trained workforce. It has grown over time to become India's leading warship construction yard.

Investing in cutting-edge technology and product sophistication has institutionalized shipbuilding in the country, opening up the possibility of expanding production capacity to serve Indian and foreign markets. The company has completed a modernization program targeted at a paradigm shift in warship construction, specifically the transfer from unit assembly to block assembly, which enables integrated modular construction. This would drastically shorten the construction or building process. MDSL's shipbuilding capability has increased to ten warships and eleven submarines.

**Exhibit 1: Key milestones for the company**




*Source: Company, Nirmal Bang Institutional Equities Research*

## Investment Argument:

### Revenue visibility to remain stable in the mid to long-term

MDSL's revenue climbed from Rs 44.8 bn in FY18 to Rs 78.2 bn in FY23, representing an 11.8% CAGR over five years. NBIE believes that the revenue growth from FY24-26 will be~25%+. This is expected to be driven by:

- Next Gen Destroyers as MDSL is the sole company with experience building destroyers.
- The Navy plans for Medium Refit Life Certifications (MRLC) and normal refits for Scorpene submarines starting in 2025.

- Export orders from Europe for constructing and delivering three units of 7,500 deadweight ton (DWT) multi-purpose hybrid power vessels valued at approximately USD 42 mn (Rs 380bn) delivered over the next three years.

**Revenue visibility to remain stable in the mid to long-term**

MDSL topline is expected to grow at a CAGR of 25% from FY24-26E. The EBITDA is anticipated to grow at a CAGR of 21% from FY24-26E. The PAT is anticipated to grow at 14% from FY24-26E.

MDSL got Rs 1.6 bn in liquidated damages (LD) in the third quarter of FY24 and expects a similar amount in the fourth quarter of FY24. MDSL has a strong dividend history, with a dividend payout ratio of 28% in previous years, NBIE anticipates this trend to continue.

MDSL is debt-free, which makes the company more solvent. Because MDSL is a DPSU, the government bears the cost of any fluctuations in the price of the equipment to be procured, reducing the volatility of margins owing to rapid changes in raw material prices.

**Strategic Partnership in Submarine Projects:**

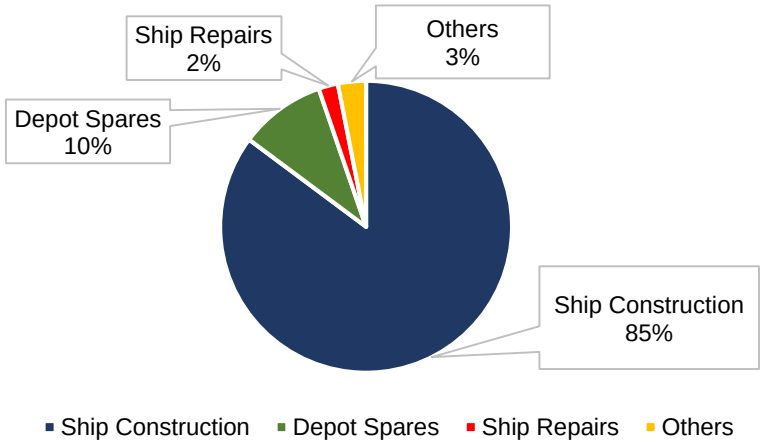
- A critical player in submarine projects, being shortlisted as a Strategic Partner for the future P75(I) submarine project. MDSL's completion of two SSK class submarines, ongoing projects, and life cycle support demonstrate its expertise in submarine construction.
- MDSL's venturing into quantum communication marks a strategic move into cutting-edge technology. As one of the pioneers in this field, MDSL showcases its adaptability and foresight in aligning with the evolving landscape of defence and communication.
- MDSL, the primary shipyard for frontline warships and submarines, might be a strong competitor in building warships and submarines that match the Indian Navy's procurement strategy.

According to the national perspective plan for the Sagarmala project, coastal and inland waterway traffic is predicted to increase by 15 times over the next 20 years.

Similarly, capacity enhancement is predicted to result in a fivefold increase in traffic capacity from the current 350 mn tons, which is projected to generate more ship repair business.

The company is well-positioned due to its robust revenue growth, stable balance sheet, and expansion into new business categories.

**Exhibit 2: Revenue breakdown for FY23**




*Source: Company, Nirmal Bang Institutional Equities Research*

**Exhibit 3: Revenue Break-up:**

| Revenue from operations (Rs mn) | FY21 | FY22 | FY23 | FY24 | FY25 | FY26 |
|---|---|---|---|---|---|---|
| **Contract revenue** | | | | | | |
| Ship construction | 29,886 | 43,403 | 66,677 | 82,354 | 98,580 | 1,29,529 |
| *Growth (%)* | *-32%* | *45%* | *54%* | *24%* | *20%* | *31%* |
| **Sale of goods** | | | | | | |
| Sale of base and depot spares | 6,203 | 9,837 | 7,476 | 8,720 | 10,438 | 13,715 |
| *Growth (%)* | *96%* | *59%* | *-24%* | *17%* | *20%* | *31%* |
| **Sale of Services** | | | | | | |
| Ship Repair | 4,326 | 3,937 | 1,687 | 1,938 | 2,320 | 3,048 |
| *Growth (%)* | *172%* | *-9%* | *-57%* | *15%* | *20%* | *31%* |
| **Other operating revenue** | **81** | **157** | **2,432** | **3,875** | **4,639** | **6,095** |
| *Growth (%)* | *10%* | *93%* | *1452%* | *59%* | *20%* | *31%* |
| **Total** | **40,500** | **57,334** | **78,272** | **96,887** | **1,15,977** | **1,52,387** |
| *Growth (%)* | *-17%* | *42%* | *37%* | *24%* | *20%* | *31%* |

*Source: Company, Nirmal Bang Institutional Equities Research*

MDSL revenue increased at a CAGR of 11.8% from FY18 to FY23. In FY23, MDSL's core segment, ship construction, accounted for about 85% of overall revenue, including cargo and multifunctional support boats. Naval boats include destroyers, submarines, frigates, and off-shore patrol vehicles. The remaining money comes from ship repairs and depot share, which accounts for 15% of the overall revenue.

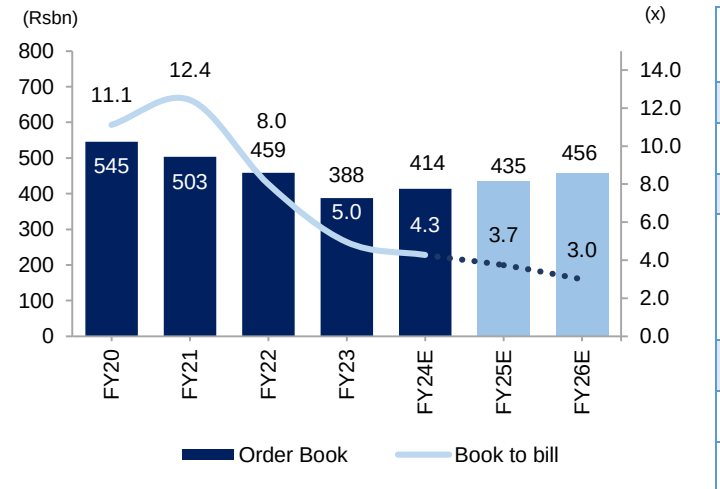
**Exhibit 4: Segment wise Break-up:**

| Segmental Revenue Breakup (Rs mn) | FY24E | FY25E | FY26E |
|---|---|---|---|
| **Ship Construction** | **77,509** | **1,04,379** | **1,21,909** |
| *Contribution* | *80%* | *90%* | *80%* |
| **Submarines** | **9,689** | **5,799** | **22,858** |
| *Contribution* | *10%* | *5%* | *15%* |
| **Repairs of Ships & Submarines** | **9,689** | **5,799** | **7,619** |
| *Contribution* | *10%* | *5%* | *5%* |
| **Total** | **96,887** | **1,15,977** | **1,52,387** |

*Source: Company, Nirmal Bang Institutional Equities Research*

MDSL's revenue contribution for FY24-26 will be primarily driven by ship building, which includes the construction of frigates, Coast Guard patrol vehicles, and export orders for European clients, followed by submarines and repair work. Submarine revenue contribution will climb from 5% to 15% beginning in FY26, as MDSL begins delivering submarines to the Indian Navy.

**Exhibit 5: MDSL's Order Book Trend**




*Source: Company, Nirmal Bang Institutional Equities Research*

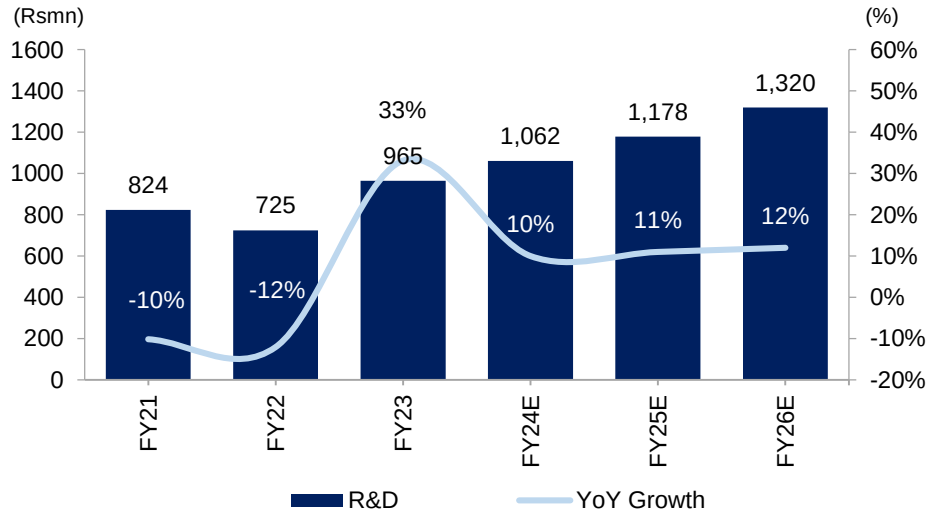
| Particulars | Project Value (Rs bn) | Nos. (Contracted) | Client | Value (Rs bn) | Nos. (Pending to be delivered) |
|---|---|---|---|---|---|
| P15B Destroyers | 321 | 4 | MoD | 123 | 1 |
| P17A Stealth Frigates | 243 | 4 | MoD | 165 | 4 |
| Others | 36 | - | - | 36 | - |
| **Submarine and heavy engineering** | | | | | |
| P75I Kalvari Submarines | 287 | 6 | MoD | 37 | 1 |
| P75 Scorpene Submarines | 30 | 3 | MoD | 30 | 3 |
| MRLC of a Submarine | 37 | 2 | MoD | 23 | 2 |
| **Total Order Book as of 31st Dec 23** | | | | **414** | |

MDSL has a solid order book of Rs 414 bn, which includes four P-17A (Project 17 Alpha) Stealth Frigates valued at Rs 165 bn. MDSL expects to begin delivery on December 24. MDSL has already delivered three P-15B (Project 15 Bravo) destroyers, with the fourth scheduled for FY25. MDSL is India's only manufacturer with experience producing destroyers, the most complicated warship, followed by frigates and corvettes. As the Indian Navy plans to acquire Next Generation Destroyers, MDSL is more likely to receive this order. MDSL also has an export order for Multi-Purpose Hybrid Power Vessels from a European client valued at USD 42 mn (Rs 3.4 bn). One order from Oil & Natural Gas Corpn Ltd (ONGC) for part replacement of the pipeline at Rs 11.4 bn.

In the submarine segment, MDSL has already delivered five P-75 Kalvari Submarines and is expected to deliver the remaining submarine by the end of 2024. MDSL has two orders of MRLC of a submarine and expects this to be recurring in the future.

The Indian navy intends to acquire P-75 I (Project 75 India) submarines equipped with AIP (Air Independent Propulsion). The project is worth Rs 430 bn. MDSL has already submitted their bid on August 23. If the order received by the MDSL has revenue visibility till FY30.

**Exhibit 6: MDSL 33% YoY Surge in R&D Expenditure**




*Source: Company, Nirmal Bang Institutional Equities Research*

- MDSL is actively engaged in indigenously designing and developing conventional submarines. Collaborating with academic institutions (IIT Madras, Chennai), startups, and industry players, MDSL is spearheading various innovative R&D projects, not limited to the defence sector but extending to energy and civil applications.
- Projects include military products like EUT (Expendable Underwater Target) and MTE (Mobile Target Emulator), a fuel cell-powered electric vessel, and AI-enabled products for submarine weld inspection, robotic weld inspection, and remotely operated vehicles.
- MDSL is committed to exploring further innovative AI projects in collaboration with the domestic industry, academia, and startups. The company has successfully completed trials for three major R&D projects and is actively participating in the IDEX initiative of the Government of India.
- The company expended approximately 1.1% of its total income on Research and Development during the fiscal year 2022-23. R&D expenditure from FY22 to FY23 grew 33% YoY. We anticipate that the R&D expenditure will grow at 12% till FY26.
- MDSL is constructing an indigenous midget submarine to serve as a prototype for future submarine orders from the MoD. MDSL is solely responsible for the project's capital expenditure. The success of this endeavor will reduce reliance on foreign OEMs for crucial component.

## Navigating New Horizons in Ship and Submarine Exports

MDSL, with a history of constructing 801 ships, is reshaping its export journey. From new builds for civilians and the military to commercial vessel repairs, MDSL is diversifying its portfolio. Despite challenges, MDSL leverages unique strengths in weapon integration and sensors to meet rising global defence needs. Beyond construction, the company offers design, training, and refits. With an eye on R&D, MDSL explores its export potential, engaging with embassies and international exhibitions for a robust global presence. Exports contributed approximately 0.073% of the total turnover for MDSL in FY23. The company anticipates securing an export order from a European client valued between Rs 6 bn and Rs 7 bn

The export market can potentially be a game-changer for Mazagon Dock as the company engages in discussions with various countries, endeavoring to secure orders for ships and submarines. These orders may involve the construction of hybrid ships, small vessels, or compact submarines. The global shipbuilding market, valued at $142 bn in 2020, is projected to reach $195 bn by 2030. Over the next three years, capturing 5% of the overall demand could significantly impact Mazagon Dock's trajectory.

Successfully fulfilling export orders can establish a robust and sustainable export order book for Mazagon Dock. As the company initiates the delivery of these export orders, it can potentially build a healthy export order book for the future. The targeted regions for exports include European Nations, African countries, South Asian nations, and Gulf countries. Mazagon Dock aims to tap into emerging opportunities and enhance its position in the dynamic and competitive global shipbuilding landscape by strategically focusing on these regions.

MDSL signed a contract with a European client to construct and deliver three 7,500 DWT (Deadweight ton) Multi-Purpose Hybrid Power Vessels. These vessels, valued at over 42 mn USD, are expected to be delivered within three years.

**Exhibit 7: MDSL Products Portfolio**


*Source: Company, Nirmal Bang Institutional Equities Research*

**Exhibit 8: Manufacturing unit**

MDSL is strategically placed near Mumbai, India's west coast (on the busiest international marine route connecting Europe, West Asia, and the Pacific Rim). The business is also looking at the prospect of establishing a greenfield shipyard in Nhava (Navi Mumbai) with a ship lift, wet basin, workshops, storage, buildings, and a ship repair facility spanning 40 acres. The company's shipbuilding capacity has expanded to ten warships, while its submarine capacity has increased to eleven submarines.


*Source: Company, Nirmal Bang Institutional Equities Research*

## A reputable and experienced Management Team

### Mr. Sanjeev Singhal, Chairman & Managing Director

He holds a bachelor's degree in commerce (honors' course) from University of Delhi. He is also a costs accountant from the Institute of Costs Accountants of India. He has over 32 years of experience in finance and accounting.

### Cdr. Jasbir Singh, Director (Submarine & Heavy Engineering)

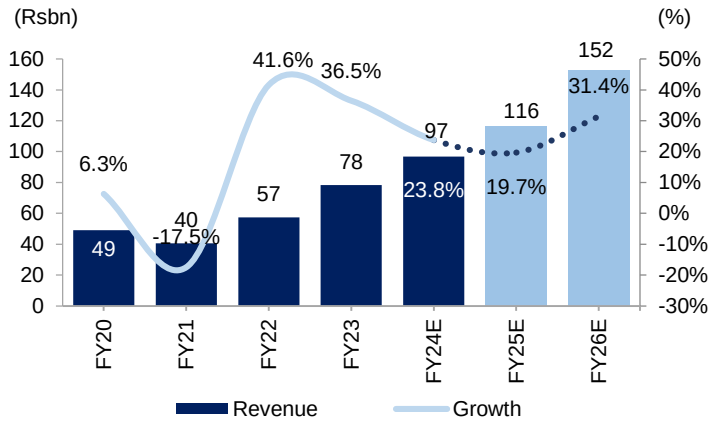
He holds a bachelor's degree in science from Jawaharlal Nehru University (National Defence Academy, Pune), a bachelor's degree in technology (mechanical engineering) from Jawaharlal Nehru University, New Delhi. He has also completed masters in business administration from the Faculty of Management Studies, New Delhi.

### Mr. Biju George, Director (Shipbuilding)

He holds a post graduate degree in Ocean Engineering and Naval Architecture from the Indian Institute of Technology, Kharagpur. He has three decades of experience with MDSL where two decades were with design of frontline warships -- Missile Destroyers and Frigates.

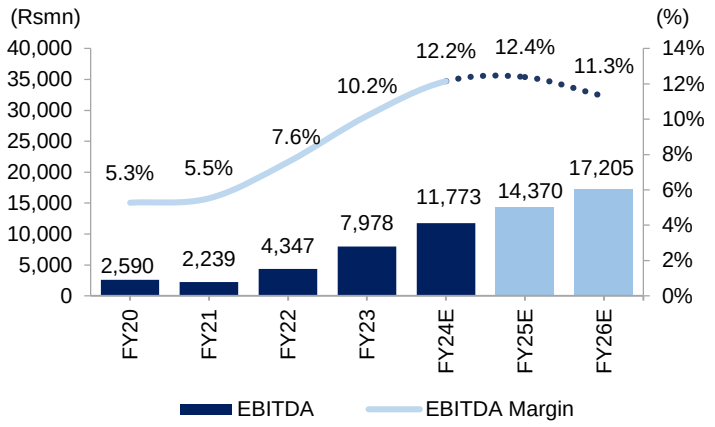
## Mazagon Dock Shipbuilders Ltd: Key Performance Indicators

**Exhibit 9: Revenue CAGR at 25%+ in FY24 - 26E**



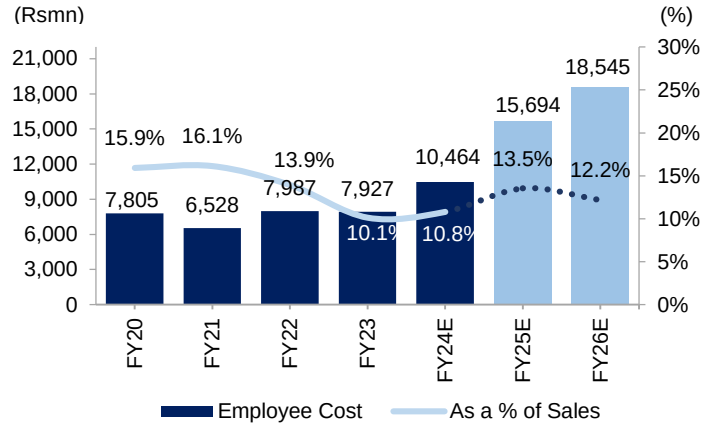

*Source: Company, Nirmal Bang Institutional Equities Research*

**Exhibit 10: EBITDA margin to pick up pace post FY26**



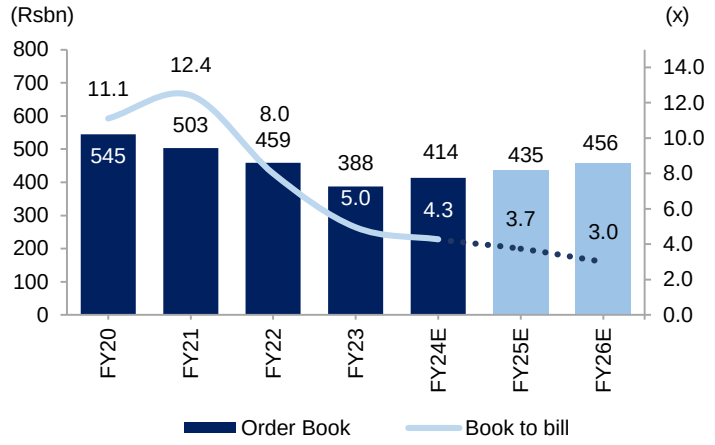

*Source: Company, Nirmal Bang Institutional Equities Research*

**Exhibit 11: Employee cost to stabilize post FY26E**



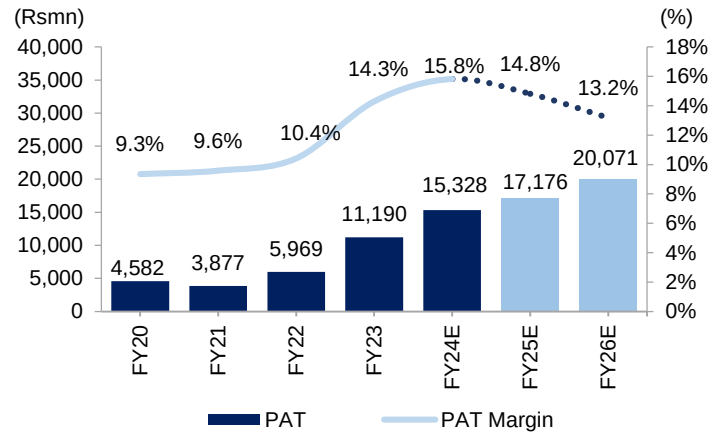

*Source: Company, Nirmal Bang Institutional Equities Research*

**Exhibit 12: Order book to reach 456bn in FY26E**



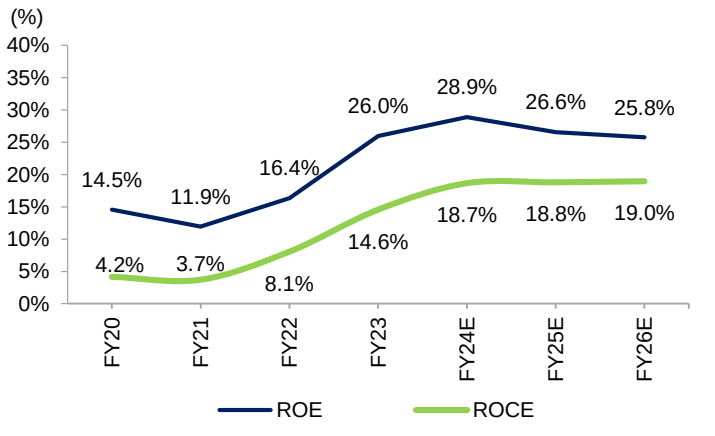

*Source: Company, Nirmal Bang Institutional Equities Research*

**Exhibit 13: PAT Margins to remain in double digits in the forecast years**




*Source: Company, Nirmal Bang Institutional Equities Research*

**Exhibit 14: Return ratios to stabilize at 18%+ post FY25E**




*Source: Company, Nirmal Bang Institutional Equities Research*

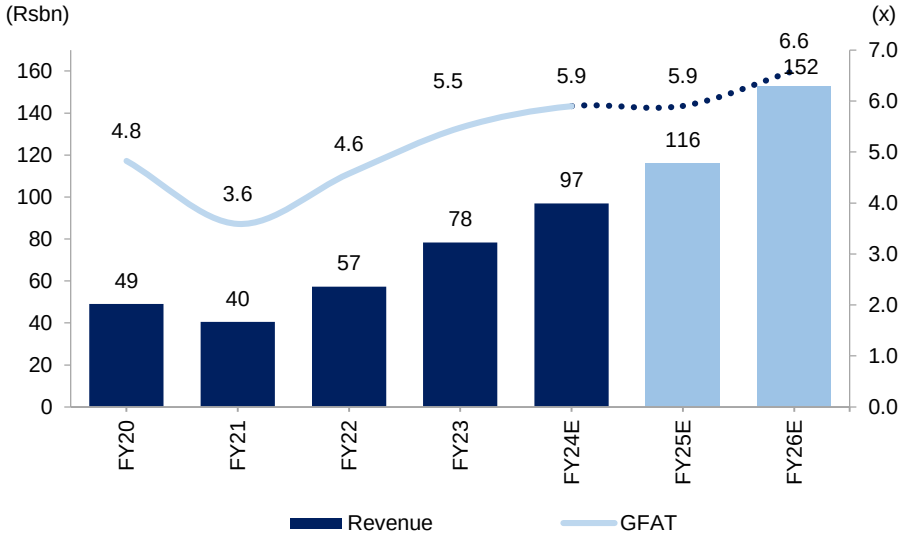
**Exhibit 15: Cash Conversion Cycle Trends**

| Cash Conversion Cycle | FY20 | FY21 | FY22 | FY23 | FY24E | FY25E | FY26E |
|---|---|---|---|---|---|---|---|
| Debtor Days | 109 | 109 | 63 | 47 | 46 | 45 | 45 |
| Inventory Days | 545 | 780 | 688 | 535 | 520 | 500 | 490 |
| Payable Days | 498 | 826 | 634 | 377 | 390 | 400 | 410 |
| **CCC** | **156** | **63** | **116** | **204** | **176** | **145** | **125** |

*Source: Company, Nirmal Bang Institutional Equities Research*

The debtor days have decreased from 109 in FY20 to 47 in FY23. Inventory days have also decreased, from 545 days in FY20 to 535 in FY23. Payable days have similarly dropped, from 498 in FY20 to 377 in FY23. However, the cash conversion period has risen from 156 days in FY20 to 204 days in FY23. The cash conversion cycle will improve in the coming years when MDSL starts delivering ships before the deadline, resulting in fewer inventory days.

**Exhibit 16: Higher revenue to offset expansion plans**




*Source: Company, Nirmal Bang Institutional Equities Research*

MDSL's GFAT (Gross fixed asset turnover) will be marginally higher in the anticipated years since the firm is developing a greenfield shipyard at its Nhava Yard and adopting both short-term and long-term development strategies based on better insights into major orders. As part of its expansion strategy, the business plans to build a new floating dry dock with a capacity of 12,000 tons. This facility will be dedicated to the development of sophisticated and next-generation vessels. MDSL would sustain a capex of Rs 3 bn over the following years.

**View and Valuation:**

Robust order book position >5x the revenue as well as ongoing assistance from the Central Government (To enhance defence product production and exports in India) will aid strong revenue growth. We expect execution to pick-up led by sourcing of components through domestic players. Furthermore, the management's greater emphasis on domestic sales (which generate superior margins in comparison with exports) would aid in maintaining margins. We expect a revenue/EBITDA/PAT CAGR of 25%/21%/14% in FY24E-26E. Given the following tailwinds with healthy balance sheet, we assign a higher multiple at 28x which is above the average one year P/E. We initiate a "BUY" with a target of Rs 2,786, valuing it at 28x March'26 EPS.

**Exhibit 17: Valuation summary.**

| Particulars | (Rs mn) |
|---|---|
| March 26E EPS | 100 |
| Target multiple (x) | 28.0 |
| **Target price (Rs)** | **2,786** |
| CMP (Rs) | 2,195 |
| **Upside / (downside) %** | **27%** |

*Source: Company, Nirmal Bang Institutional Equities Research*

## Key risk and concerns

**Primarily dependent on contracts from Ministry of Defence**

MDSL is primarily dependent on MoD and the Indian Navy for contracts under submarines and shipbuilding. Any decline, delay or re-prioritisation of funding under the Indian defence budget or that of customers including the MoD for the Indian Navy's use could adversely affect the company's ability to grow or maintain its sales, earnings, and cash flow.

**Delay in advances from customers may impact execution**

MDSL gets significant advances from customers at the beginning of a project. Any delay in these advances or lower disbursement can impact the execution of the project and, thus, profitability and cash flows.

**Delays in procurement, nomination or any other decision making by MoD**

Any delays in procurement, nomination or any other decision making by the company's customers and collaborators may result in time and cost overruns in completion of the company's shipbuilding and submarine projects, which may have an adverse effect on its business, financial condition and results of operations.

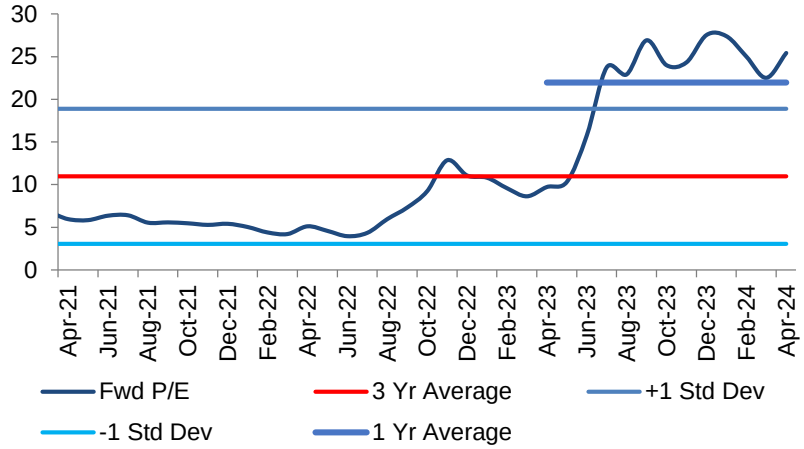
**Dependent on foreign suppliers for weapons, propulsion systems**

The company is dependent on foreign suppliers for weapons and propulsion systems to be fitted on warships and the submarines. Any change in preference of these suppliers or any disturbance in the global supply chain may impact the company's execution and, thus, earnings and cash flows.

**Labor costs**

Labor is a major cost, accounting for about 10-15% of the total cost. Lower labor costs compared with China, South Korea, and Japan can improve competitiveness along with greater indigenization of the company. Indian shipbuilders import 65-70% of equipment due to the absence of manufacturing equipment in the country, and equipment costs constitute 50-55% of shipbuilding costs. This increases the cost of ships.

**Exhibit 18: Rolling Valuation Charts**




*Source: Company, Nirmal Bang Institutional Equities Research*

## Financial Statements

### Exhibit 19: Income statement

| Y/E March (Rs mn) | FY22 | FY23 | FY24E | FY25E | FY26E |
|---|---|---|---|---|---|
| **Net Sales** | **57,333** | **78,272** | **96,887** | **1,15,977** | **1,52,387** |
| Raw Material Consumed | 26,931 | 44,459 | 49,106 | 47,864 | 60,966 |
| Procurement of base and depot spares | 9,137 | 6,932 | 13,751 | 20,919 | 33,000 |
| Changes in Inventory | - | - | - | - | - |
| Employee Cost | 7,987 | 7,927 | 10,464 | 15,694 | 18,545 |
| Other expenses | 8,931 | 10,976 | 11,792 | 17,129 | 22,670 |
| Total Expenditure | 52,986 | 70,294 | 85,113 | 1,01,606 | 1,35,182 |
| **Operating profit** | **4,347** | **7,978** | **11,773** | **14,370** | **17,205** |
| *Operating profit margin (%)* | *7.6* | *10.2* | *12.2* | *12.4* | *11.3* |
| Other Income | 4,103 | 6,868 | 7,728 | 6,700 | 8,400 |
| Interest | 72 | 64 | 59 | 64 | 57 |
| Depreciation | 745 | 756 | 805 | 1,147 | 1,350 |
| PBT | 7,633 | 14,027 | 18,638 | 19,859 | 24,198 |
| Exceptional items | (140) | - | - | - | - |
| PBT post exc items | 7,493 | 14,027 | 18,638 | 19,859 | 24,198 |
| Tax | 1,862 | 3,566 | 4,581 | 4,093 | 5,536 |
| *Tax rate (%)* | *24.9* | *25.4* | *24.6* | *20.6* | *22.9* |
| PAT | 6,108 | 11,190 | 15,328 | 17,176 | 20,071 |
| **Adj PAT** | **5,969** | **11,190** | **15,328** | **17,176** | **20,071** |
| **EPS (Rs)** | **30.3** | **55.5** | **76.0** | **85.2** | **99.5** |

*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 20: Cash flow

| Y/E March (Rs mn) | FY22 | FY23 | FY24E | FY25E | FY26E |
|---|---|---|---|---|---|
| Profit before tax | 7,493 | 14,027 | 18,638 | 19,859 | 24,198 |
| Add: Depreciation & Impairment | 745 | 756 | 805 | 1,147 | 1,350 |
| Cash flow from operations before WC | 4,743 | 8,702 | 20,773 | 22,480 | 27,015 |
| Net change in Working capital | (3,345) | 2,995 | 4,366 | 1,455 | (6,240) |
| Tax paid | (3,025) | (3,122) | (4,581) | (4,093) | (5,536) |
| **Net cash from operations** | **(1,626)** | **8,576** | **20,558** | **19,842** | **15,239** |
| Capital expenditure | (388) | (1,103) | (3,000) | (3,500) | (3,500) |
| Free Cash Flow | (2,014) | 7474 | 17558 | 16342 | 11739 |
| Others | 3,652 | 6,186 | 6,252 | 6,320 | 6,387 |
| **Net cash from investing** | **3,264** | **5,083** | **3,252** | **2,820** | **2,887** |
| Issue of shares | - | - | - | - | - |
| Increase in debt | - | - | - | - | - |
| Dividends paid incl. tax | (1,801) | (2,164) | (4,409) | (4,941) | (5,774) |
| Interest paid | (31) | (16) | (59) | (64) | (57) |
| Others | - | - | - | - | - |
| **Net cash from financing** | **(1,832)** | **(2,180)** | **(4,468)** | **(5,005)** | **(5,831)** |
| Net Cash | (194) | 11,480 | 19,342 | 17,657 | 12,295 |
| Opening Cash | 7,399 | 7,205 | 18,684 | 38,026 | 55,683 |
| **Closing Cash** | **7,205** | **18,684** | **38,026** | **55,683** | **67,979** |

*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 21: Balance sheet

| Y/E March (Rs mn) | FY22 | FY23 | FY24E | FY25E | FY26E |
|---|---|---|---|---|---|
| Equity Capital | 2,017 | 2,017 | 2,017 | 2,017 | 2,017 |
| Other Equity | 36,560 | 45,585 | 56,504 | 68,739 | 83,037 |
| Minority interest | - | - | - | - | - |
| Networth | 38,577 | 47,602 | 58,521 | 70,756 | 85,053 |
| Total Debt | 2,001 | 1,711 | 2,711 | 3,711 | 4,711 |
| Deferred tax liability | - | - | - | - | - |
| Other non current liabilities | 7,051 | 5,444 | 5,444 | 5,444 | 5,444 |
| Trade Payables | 61,657 | 44,628 | 67,162 | 75,379 | 1,05,551 |
| Other Current Liabilities | 1,88,417 | 1,95,248 | 1,98,548 | 2,02,348 | 2,04,648 |
| **Total liabilities** | **2,97,702** | **2,94,632** | **3,32,385** | **3,57,637** | **4,05,407** |
| PPE | 9,566 | 10,070 | 12,080 | 14,400 | 16,516 |
| CWIP | 869 | 616 | 647 | 679 | 713 |
| Investment property | - | - | - | - | - |
| Intangible assets under development | - | - | - | - | - |
| Intangible Assets | 81 | 174 | 174 | 174 | 174 |
| Investments | - | - | - | - | - |
| Deferred Tax Assets | 3,132 | 2,655 | 2,655 | 2,655 | 2,655 |
| Other Non-Current Assets | 18,760 | 20,265 | 20,265 | 20,265 | 20,265 |
| Inventories | 77,001 | 73,569 | 89,550 | 94,224 | 1,26,147 |
| Trade receivables | 10,054 | 10,023 | 12,210 | 14,298 | 18,787 |
| Cash & Near-Cash Items | 7,205 | 18,684 | 38,026 | 55,683 | 67,979 |
| Other Current Assets | 1,71,035 | 1,58,576 | 1,56,778 | 1,55,259 | 1,52,171 |
| **Total Assets** | **2,97,702** | **2,94,632** | **3,32,385** | **3,57,637** | **4,05,407** |

*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 22: Key ratios

| Y/E March | FY22 | FY23 | FY24E | FY25E | FY26E |
|---|---|---|---|---|---|
| **Growth (%)** | | | | | |
| Sales | 41.6 | 36.5 | 23.8 | 19.7 | 31.4 |
| Operating Profits | 94.2 | 83.5 | 47.6 | 22.1 | 19.7 |
| Net Profits | 53.9 | 87.5 | 37.0 | 12.1 | 16.9 |
| **Leverage (x)** | | | | | |
| Net Debt: Equity | (3.0) | (2.8) | (2.6) | (2.4) | (2.1) |
| Interest Cover(x) | 50.3 | 113.4 | 187.5 | 206.6 | 276.5 |
| Total Debt/EBITDA | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 |
| **Profitability (%)** | | | | | |
| OPM | 7.6 | 10.2 | 12.2 | 12.4 | 11.3 |
| NPM | 10.7 | 14.3 | 15.8 | 14.8 | 13.2 |
| ROE | 16.4 | 26.0 | 28.9 | 26.6 | 25.8 |
| ROCE | 8.1 | 14.6 | 18.7 | 18.8 | 19.0 |
| **Turnover ratios (x)** | | | | | |
| GFAT | 4.6 | 5.5 | 5.9 | 5.9 | 6.6 |
| Debtors Turnover(x) | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 |
| WC days | 116 | 204 | 176 | 145 | 125 |
| **Valuation (x)** | | | | | |
| P/E | 74.2 | 39.6 | 28.9 | 25.8 | 22.1 |
| P/B | 11.5 | 9.3 | 7.6 | 6.3 | 5.2 |
| EV/EBIDTA | 75.5 | 38.9 | 24.7 | 19.0 | 15.2 |

*Source: Company, Nirmal Bang Institutional Equities Research*

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# Astra Microwave Products Ltd (AMPL)

Defence | Initiating Coverage

**BUY**

**CMP: Rs641 | Target Price (TP): Rs776 | Upside: 21%**

**April 5, 2024**

## Pace in Space

### Key Points

- Astra Microwave Products Ltd. (AMPL) is the market leader in the design and production of microwave processors, radio frequency systems, microwave-based components, and subsystems for the Defence, Telecommunications, and Space industries.
- 3QFY24 saw a substantial influx of orders for AMPL amounting to Rs2.5bn and the company currently has a backlog of orders worth Rs15bn (1.8x FY23 sales), which bodes well for earnings over the next 1.5 years.
- The management anticipates a robust long-term order pipeline with cumulative opportunities worth Rs80bn within AMPL's Rs250bn total addressable market from FY24-FY28.
- We are of the opinion that AMPL is strategically positioned for robust development, propelled by strong sector tailwinds. Earnings in the upcoming quarters will be driven by the government's emphasis on indigenization, the growing use of electronics in Space & Defence, robust order backlog, healthy orders pipeline, and the successful completion of high-margin domestic orders. We anticipate a revenue/EBITDA/PAT CAGR of 25%/28%/32% in FY24-26. We recommend BUY on AMPL with a target price (TP) of Rs776, valuing it at 40x FY26E EPS.

**Strong order pipeline:** AMPL anticipates an order inflow of Rs80bn, and with a total addressable market of Rs250bn, the present order backlog stands at Rs15 bn, or 1.8 times the sales for FY23, offering visibility for the coming 1.5 years. Order inflow for 3QFY24 was at Rs2.5bn. The order execution mix was 85% domestic and 15% international. Over the next 2-3 years, the execution mix will be split 70:30 between domestic and export orders.

**View & Valuation:** The modernization of the country's Defence sector and the government's initiatives towards self-sufficiency have improved the sector's long-term earnings prospects. The sharp increase in the order inflow pipeline is due to an enhanced emphasis on defence electronics. The anticipated acceleration in executing domestic orders augurs earnings growth and margin expansion well. We anticipate a revenue/EBITDA/PAT CAGR of 25%/28%/32% in FY24-26. Given the strong order book and revenue visibility, we assign a multiple at 40x +1 SD lower than the historical trend. We initiate a "BUY" with a target of Rs 776, valuing it at 40x March'26 EPS.

| | |
|---|---|
| Est Change | - |
| TP Change | - |
| Rating Change | - |

**Company Data and Valuation Summary**

| | |
|---|---|
| Reuters | ASTM.BO |
| Bloomberg | ASTM IN Equity |
| Market Cap (Rsbn / US$mn) | 60.8 / 729.7 |
| 52 Wk H / L (Rs) | 694 / 240 |
| ADTV-3M (mn) (Rs / US$) | 258.3 / 3.1 |
| Stock performance (%) 1M/6M/1yr | 4.0 / 48.1 / 168.2 |
| Nifty 50 performance (%) 1M/6M/1yr | 2.4 / 3.7 / 27.9 |

| Shareholding | 1QFY24 | 2QFY24 | 3QFY24 |
|---|---|---|---|
| Promoters | 6.5 | 6.5 | 6.5 |
| DIIs | 9.9 | 15.3 | 14.8 |
| FIIs | 3.0 | 1.7 | 2.9 |
| Others | 80.6 | 76.5 | 75.7 |
| Pro pledge | 0.0 | 0.0 | 0.0 |

| Top Shareholders | % of Company |
|---|---|
| Tata AIA Life Insurance Co Ltd | 3.62 |
| HDFC Asset Management Co Ltd | 2.64 |
| Nippon Life India Ltd | 2.47 |
| 360 One Asset Management Ltd | 2.09 |
| Kotak Mahindra Asset Management Ltd | 1.95 |

**Financial and Valuation Summary**

| Particulars (Rsmn) | FY23 | FY24E | FY25E | FY26E |
|---|---|---|---|---|
| Revenues | 8,155 | 9,017 | 11,399 | 13,986 |
| *Growth YoY (%)* | *8.7* | *10.6* | *26.4* | *22.7* |
| EBITDA | 1,476 | 1,824 | 2,459 | 2,987 |
| *EBITDA margin (%)* | *18.1* | *20.2* | *21.6* | *21.4* |
| Adj. PAT | 698 | 1,065 | 1,500 | 1,842 |
| *Growth YoY (%)* | *84.4* | *52.5* | *40.9* | *22.8* |
| Adj EPS (Rs) | 8.1 | 11.2 | 15.8 | 19.4 |
| *ROE (%)* | *11.4* | *15.5* | *19.0* | *20.0* |
| *EV/EBITDA* | 38.1 | 31.9 | 23.6 | 19.2 |
| P/E (x) | 79.5 | 57.2 | 40.6 | 33.1 |

*Source: Bloomberg, Company, Nirmal Bang Institutional Equities Research*

**Key Links :**

FY23 Annual Report | 3QFY24Result

*Please refer to the disclaimer towards the end of the document.*

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**Research Analyst**
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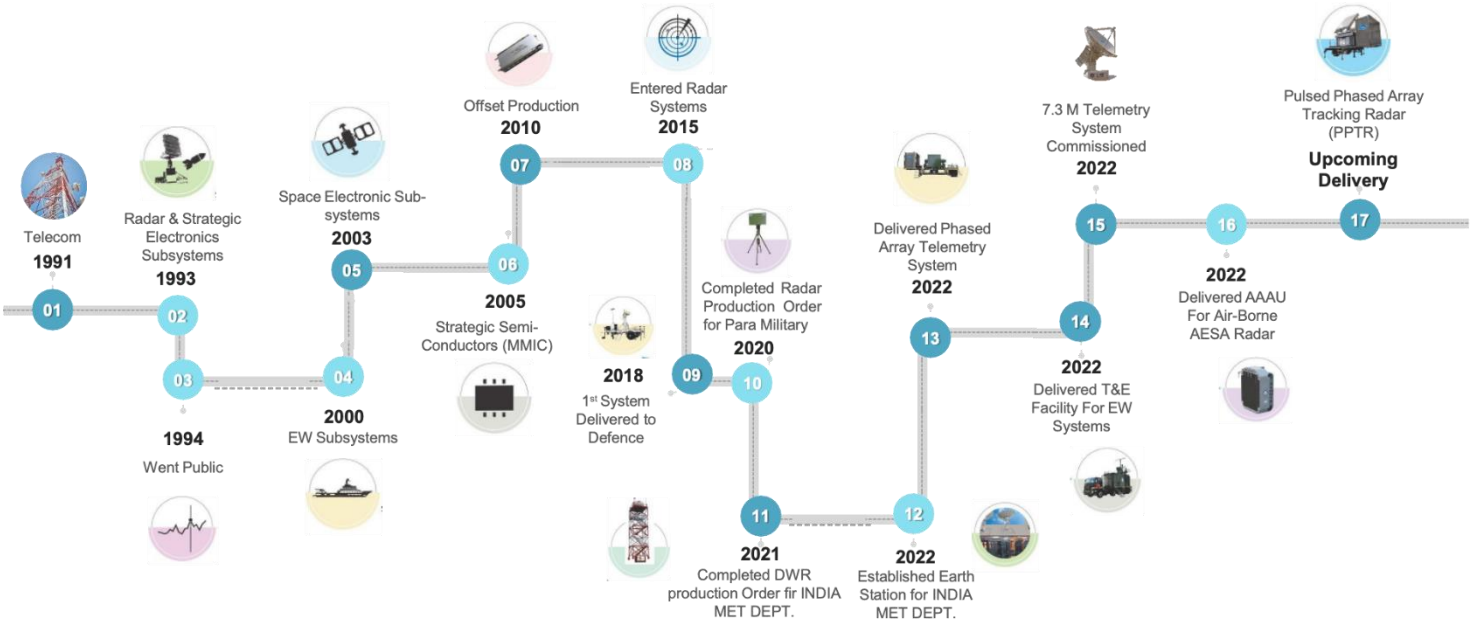
+91-7738892292

## Company background

Astra Microwave Products Ltd. was incorporated in 1991 and got listed on the NSE and BSE in 1994. The group is engaged in the design, development, and manufacture of sub-systems for radio frequency and microwave systems used in Defence, Space, Aerospace, Meteorology, Telecommunications, & Civil Communications; manufacture, supply, installations, and service of electronic machinery, components, spares, and other electronic parts; defence communication and specific electronic warfare; design, development, manufacture and dealing in space crafts, launch vehicles and robots for the sectors of Aviation and Aerospace, Deep Space, Defence, and Internal Security. It has 30+ years of experience in microwave radio frequency (RF) applications. It has projects with various Indian government labs, Indian defence PSUs, ISRO, and many foreign OEMs.

**Exhibit 1: Key milestones for the company- 30+ years of journey**




*Source: Company, Nirmal Bang Institutional Equities Research*

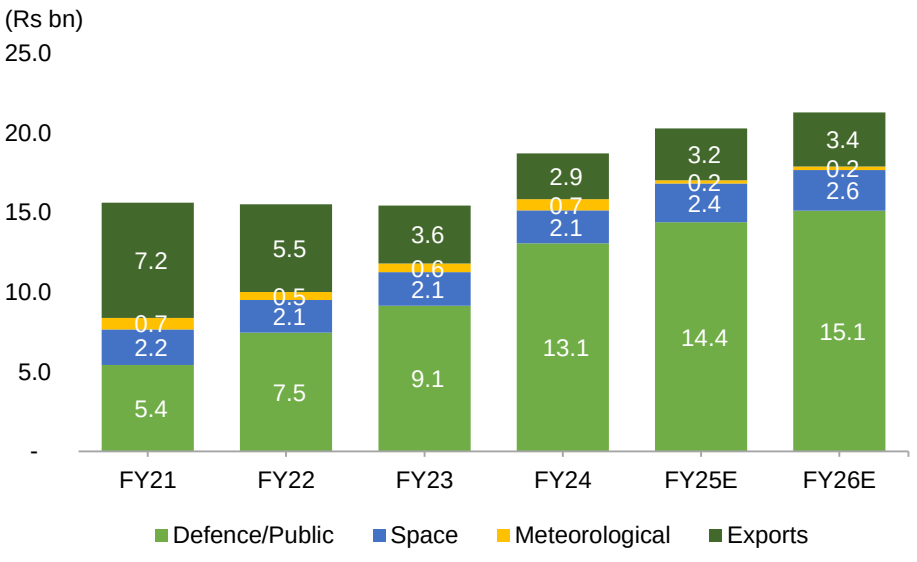
**Key projects done over the years**

- RUs supplied to 3D-CAR Ashlesha & Arudhra Radars
- Developed & supplied Radar & EW (Electronic Warfare) Systems Test & Evaluation Facility (50 MHz – 40 GHz) to DLRL to carry out T&E of EW systems in radiation mode
- Supplied TR Modules & Control Units for LRDE's Long Range Radar (LRR)
- Developed & supplied a Land-based 7.3m Ground Telemetry Station designed to acquire and track airborne targets using five different carriers simultaneously.
- Proto Development & Production of Digital Transmit Receive Units (DTRUs) and Digital Receive Units
- (DRUs) for Digital Active Phased Array (DAPA) Technology Demonstrator Project
- Shakti Project Sub-modules & Nayan Project Submodules
- Developed, Supplied & Commissioned 11 X-DWRs
- Developed & Supplied Active Array Antenna Unit (AAAU) For Uttam AESA Radar for LCA Mk1A fighter Aircraft
- Developed & Supplied X-band AESA Seeker Head

## Investment Argument:

- AMPL's 5-year revenue CAGR from FY18-23 was 29%. NBIE expects the company to retain 25% during FY24-26. Revenue for FY24-26 will be generated by completing projects such as Arudhra Radars, HiSAR, ADS radar, and MRTR. Another source of revenue is the Rs 1.5 bn electronic warfare systems (EW) project, which FY25 will finish. Telemetry missile orders totaled Rs 1.4 bn.
- Export orders of Rs 1.5 bn will be fulfilled in FY25.AMPL's EBITDA increased by 65.5% YoY, from Rs 892 mn in FY22 to Rs 1,476 mn in FY23. NBIE anticipates AMPL EBITDA to grow at 28% during FY24 - FY26, with an EBITDA margin of 20%. In 3QFY24, AMPL had some supply chain problems, but they had no substantial impact on the margins.
- Profit after tax (PAT) is expected to grow by around 32% in FY24-26. The company's key growth driver is its strong order book, which stands at Rs 15 bn as of 3QFY24. This sum is 1.8x the revenue from FY23. We estimate that revenue for 4QFY24 would be Rs 3,468 mn, representing a 50% QoQ rise.
- There are various tailwinds for AMPL, including the Union Budget submitted by the finance minister, which allocates 13% of the budget, or around USD 81.4 bn, to the Ministry of Defence for fiscal year 24-25. This allocation is the greatest among all ministries, demonstrating the government's commitment to improving the country's defence. The goal is to encourage the private sector to invest in expanding on the NCNC (No cost no competition) plan, while also increasing DRDO R&D spending. The DRDO is providing considerable support to the industry to make India a net defence exporter.
- The transfer of technology is an essential step in this direction. Astra is bidding for the whole radar system, including present DRDO demands and expected future Ministry of Defence (MoD) requirements.

**Exhibit 2: Sale of Defence and export to see traction**

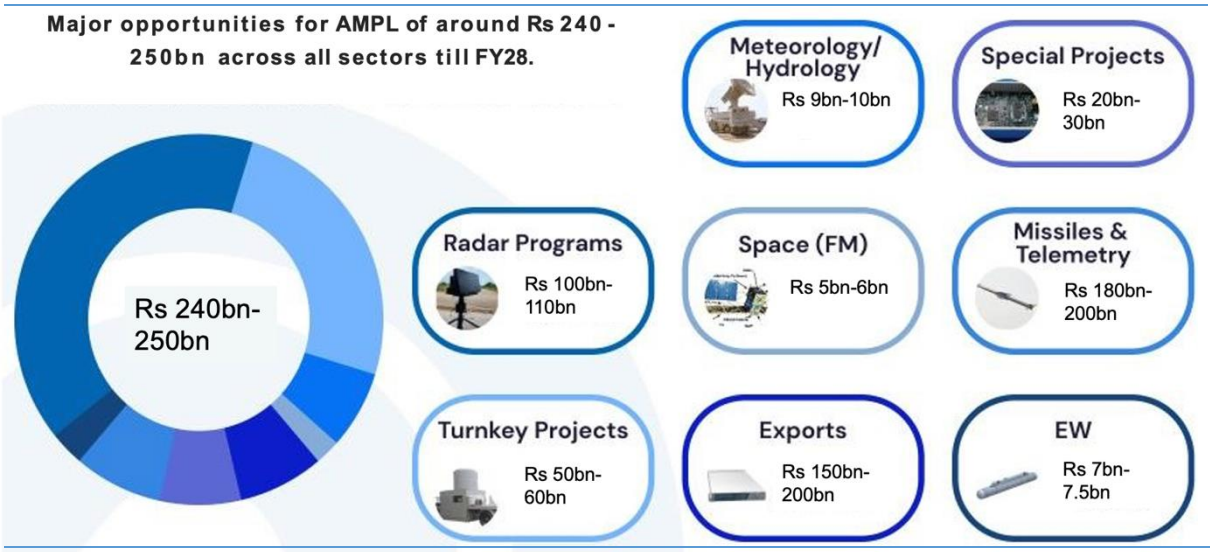



*Source: Company, Nirmal Bang Institutional Equities Research*

AMPL's order book is dominated by defence contracts, with space and meteorological segments following closely behind. As of 3QFY24, the company had received orders for Rs 2.5 bn. The majority of these orders were for defence, totaling more than Rs 1.5 bn, with export orders at Rs 0.9 bn. The total order book as of 9MFY24 was Rs15 bn. Based on its deep domain understanding, the company has created a strong, diverse order book. With its proven track record, it is well-positioned to acquire a larger share of the Indian military sector, rapidly expanding due to different

government projects such as IDDM, MAKE-II, etc. It anticipates chances from different government-sponsored programmes through DRDO, as well as Make-II opportunities from the Ministry of Defence. It has demonstrated expertise in many areas, including radar and electronic warfare systems.

**Exhibit 3: Total Addressable Market for AMPL**




*Source: Company, Nirmal Bang Institutional Equities Research*

AMPL's total addressable market (TAM) is Rs 250 bn across all its business segments. The TAM for radar programs is between Rs 100 and Rs 110 bn, whereas turnkey projects cost Rs 60 bn. The TAM visibility extends until FY28.

We expect the revenue mix in the domestic market will improve compared to the previous three years, which should benefit the bottom line. The present order book is 1.8 times FY23 sales, providing significant visibility for the next few years.

## Major projects due for delivery during 2023-2024:

- 6 Mtrs S-Band AAAU (Active Antenna Array Unit) for strategic Naval application of DRDO
- Space Group CTRiM, XTRiM& X-TRIB, Anvesha Project
- Nayan Project Sub Modules
- Pulsed Phased Array Tracking Radar (PPTR).
- Shakti Project Submodules
- 16 Elements AATRU for ASPJ Pod (LCA Mk1A)
- C- Band Doppler Weather Radar For IMD
- Ku-Band AESA Seeker Head for future version of Astra missiles.
- X-Band AESA Seeker Head for Naval missiles
- Compact Telemetry System (CTS).
- X-Band Doppler Weather Radar

**Exhibit 4: FY23 – Breakup of the turnover**

| Sr. No. | Products/Services | % of total turnover |
|---|---|---|
| 1 | Manufacturing of radar, radar apparatus and radio remote control apparatus | 94.9% |
| 2 | Electronic integrated circuits manufacturing | 0.2% |
| 3 | Manufacturing of printed circuits | 0.2% |
| 4 | Antennas installation | 0.6% |
| 5 | Generation of electricity from wind energy / energy from waves etc. | 0.2% |
| 6 | Manufacture of other electronic components | 1.3% |
| 7 | Hydrological instruments, meteorological related instruments & apparatus | 2.6% |

*Source: Company, Nirmal Bang Institutional Equities Research*

**Exhibit 5: Segmental Revenue Break-up:**

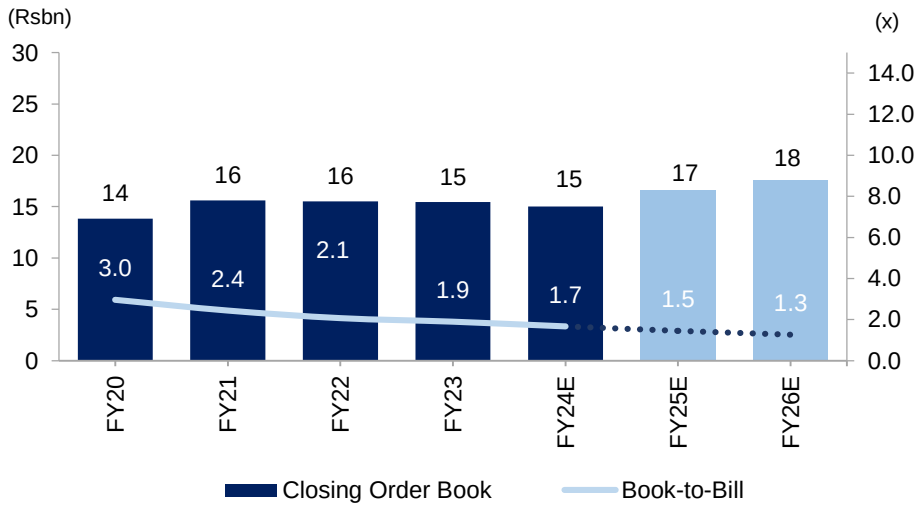
| Segmental Breakup (Rs mn) | FY22 | FY23 | FY24E | FY25E | FY26E |
|---|---|---|---|---|---|
| **Defence** | **3,377** | **4,551** | **5,221** | **5,876** | **6,656** |
| *Contribution* | *45.0%* | *55.8%* | *60.0%* | *62.0%* | *64.0%* |
| **Space** | **75** | **82** | **348** | **426** | **520** |
| Contribution | *1.0%* | *1.0%* | *4.0%* | *4.5%* | *5.0%* |
| **Exports** | **3,527** | **3,229** | **3,002** | **3,033** | **3,120** |
| Contribution | *47.0%* | *39.6%* | *34.5%* | *32.0%* | *30.0%* |
| **Metrological** | **450** | **253** | **78** | **85** | **73** |
| Contribution | *6.0%* | *3.1%* | *0.9%* | *0.9%* | *0.7%* |
| **Others** | **75** | **41** | **52** | **57** | **31** |
| Contribution | *1.0%* | *0.5%* | *0.6%* | *0.6%* | *0.3%* |
| **Total** | **7,505** | **8,155** | **8,702** | **9,477** | **10,400** |

*Source: Company, Nirmal Bang Institutional Equities Research*

In the anticipated years, AMPL's revenue contribution will be in the 70:30 range for domestic and exports. The defence segment will account for the majority of income in the domestic market, with partners including DRDO labs, Defence PSUs, ISRO, and several foreign OEMs.

The management thinks the QIP proceeds will help the company make more money and work more efficiently. The Rs2.3bn raised through the QIP will give the company a big boost to its future growth by allowing it to spend on new technologies and make new products.

**Exhibit 6: Strong Order book to support revenue generation**



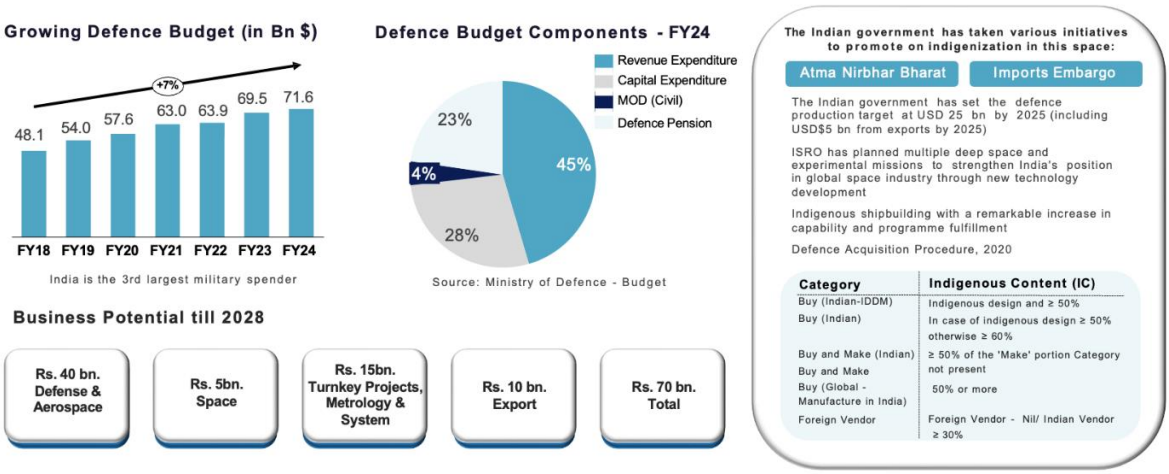

*Source: Company, Nirmal Bang Institutional Equities Research*

The management anticipates an order inflow of Rs13 bn in FY25. A one-of-a-kind arrangement was inked with Eldis to handle all of India's civil airport surveillance radar requirements. They developed counter-drone radar using DRDO technology. This can be used with any jammer and RF sensor to form a complete system to combat drones. They bid for the Netra Space Debris Radar for ISTRAC in collaboration with a global radar OEM. This radar has a range of 2000 km and can detect space trash as small as 10 cm. An agreement was reached with Sisir Radar to collaborate on developing a SAR payload for military usage. DRDO has selected AMIL as one of its ToT partners for the Low-Level Transportable Radar (LLTR). A limited tender for this project is set to be issued soon.

The company is exploring joint ventures in anti-drone, electronic warfare, satellites, SDRs, and electro-optics. There are no major supply chain issues because of Israel's prolonged conflict with the Palestinians. There are no major supply chain issues because of Israel's prolonged conflict with the Palestinians.

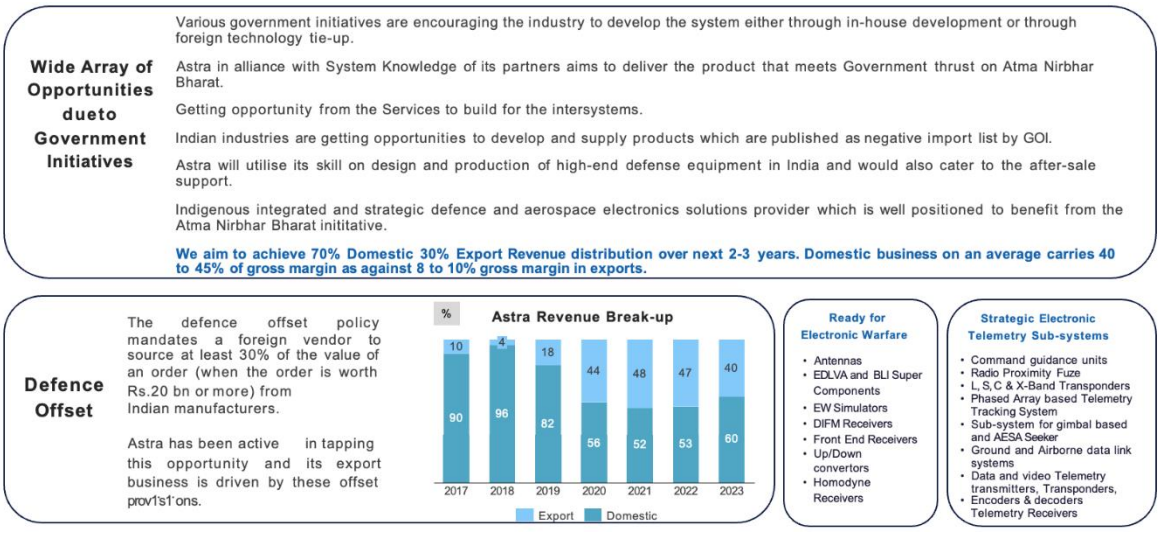
India's extensive modernization plans, an increased focus on homeland security to increase government allocation for defence expenditures, and a Make in India focus are expected to drive healthy growth in the sector.

**Exhibit 7: Growing defence opportunity**



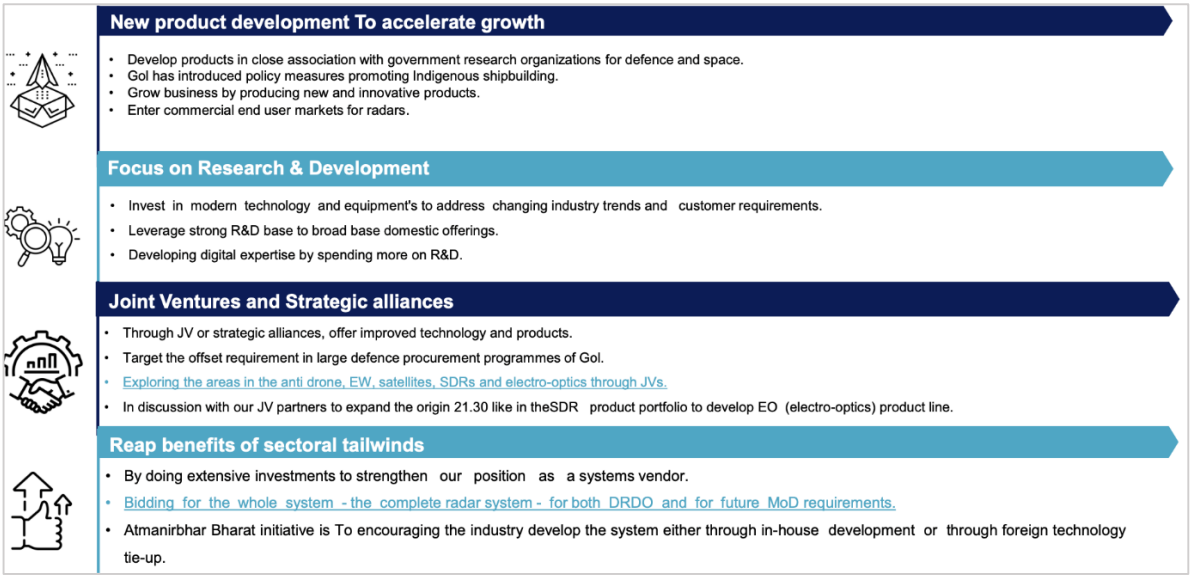

*Source: Company, Nirmal Bang Institutional Equities Research*

**Exhibit 8: ASTRA is well-equipped to meet the growing demand for defence products**



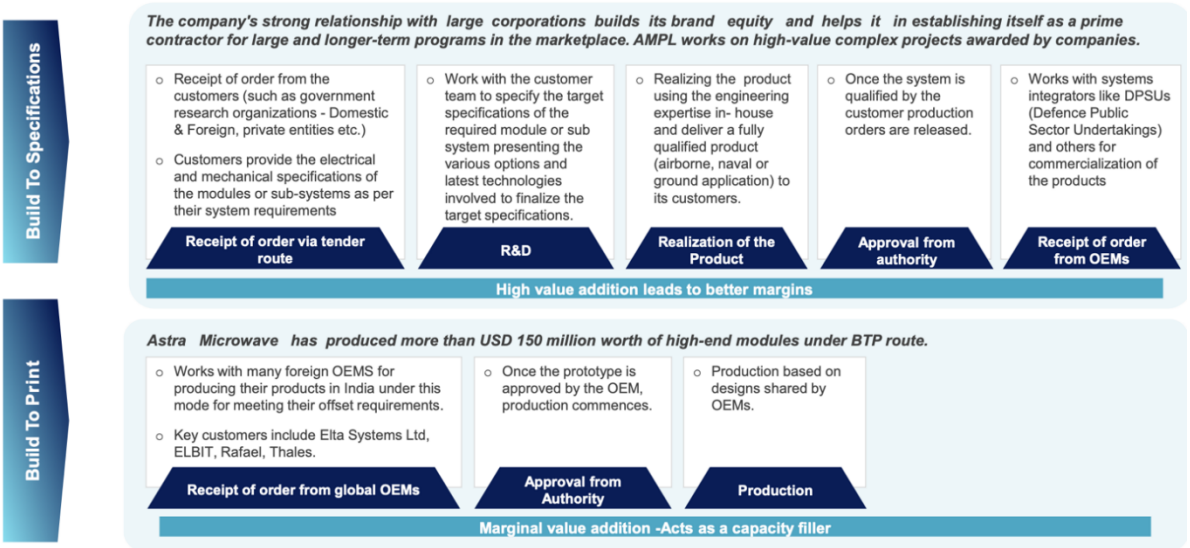

*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 9: Growth Strategy



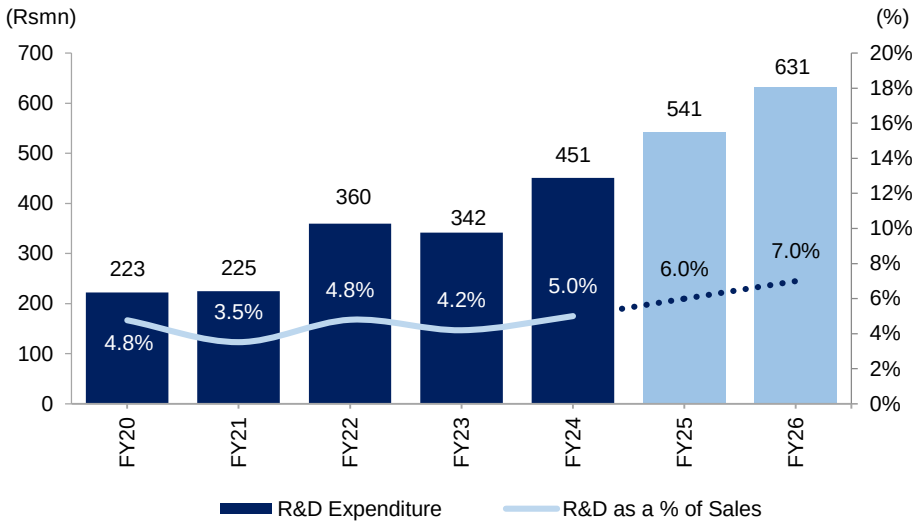

*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 10: BTS VS BTP




*Source: Company, Nirmal Bang Institutional Equities Research*

**Exhibit 11: Dedicated R&D yields a competitive advantage.**




*Source: Company, Nirmal Bang Institutional Equities Research*

Over four years, the company grew its R&D investment from Rs174.5mn in FY19 to Rs341.9mn in FY23, representing a CAGR of 18.3%. DRDO has awarded it a strategically significant research and development project to create an imaging radar and supply the Electronic Warfare (EW) payload subsystem. These parts will be used in a DRDO-developed satellite system.

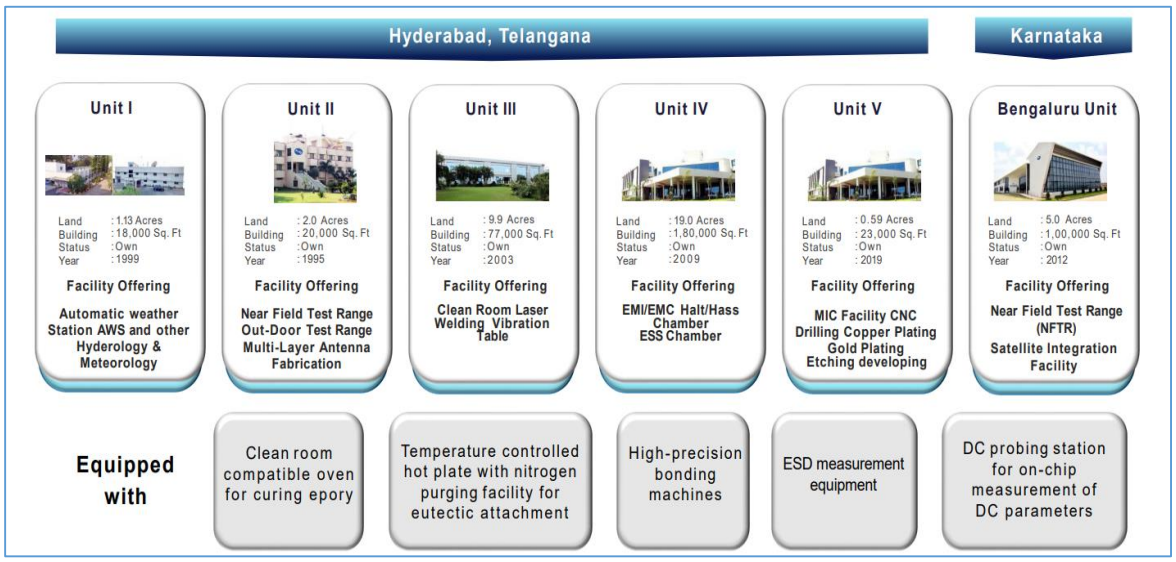
The organization is giving priority to investing in state-of-the-art machinery and technology in order to adapt successfully to changing market trends and client demands. By using its strong R&D infrastructure, it hopes to expand the variety of home products it offers. Furthermore, the organization is committed to augmenting its proficiency in digital domains by dedicating additional funds to research and development campaigns. The company's dedication to remaining at the forefront of innovation and satisfying the ever-changing demands of its clients is demonstrated by these key initiatives.

**Exhibit 12:JV and subsidiaries**

| | | Overview |
|---|---|---|
| Subsidiaries | BE Bhavyabhanu Electronics Pvt. Ltd. | • BEPL is a fully owned subsidiary of Astra Microwave<br>• Established with State-of-the-Art manufacturing & test facilities to meet Global Standards. This combined with experienced manpower & stabilized processes ensure that the needs of various Industry Segments can be met easily<br>• A dependable player with excellent technological capabilities and a long-term commitment to the defense,<br>• aerospace, medical and industrial electronics industry<br>• Products are known for ruggedness and reliability and conform to the latest quality standards. BEPL can handle both high-mix, low/medium volume products as well as high volume production for our customers |
| | Aelius Semiconductors Pvt. Ltd. | • A fabless MMIC Design House, based in Singapore. Aelius Semiconductors develops GaAs and GaN MMIC products based on a robust and reliable design philosophy. These designs are fabricated at leading foundries across the world<br>• The products are tested and packaged as per customer's requirement utilizing state-of-the-art facilities<br>• Aelius's unique and wide range of MMIC products are focused primarily on the Defense and Space industries, with competitive time lines and prices. We offer the flexibility to custom-package our products to customer's chosen configuration of die, package, or module |
| JV | ARC Astra Rafael Comsys Pvt. Ltd. | • Astra Microwave Products Ltd and M/s RAFAEL ADVANCED DEFENSE SYSTEMS LTD., Israel (RAFAEL) came together to form a Joint Venture Company called Astra Rafael Comsys Private Ltd. (ARC) in Aug-19<br>• Focuses on indigenous technology and Atma Nirbhar Bharat programs<br>• Engages in carrying out production, integration, customization, marketing, sale, life cycle support and additional activities as required in the fields of Tactical Radio Communication systems, Electronic Warfare Systems and Signal Intelligence Systems |

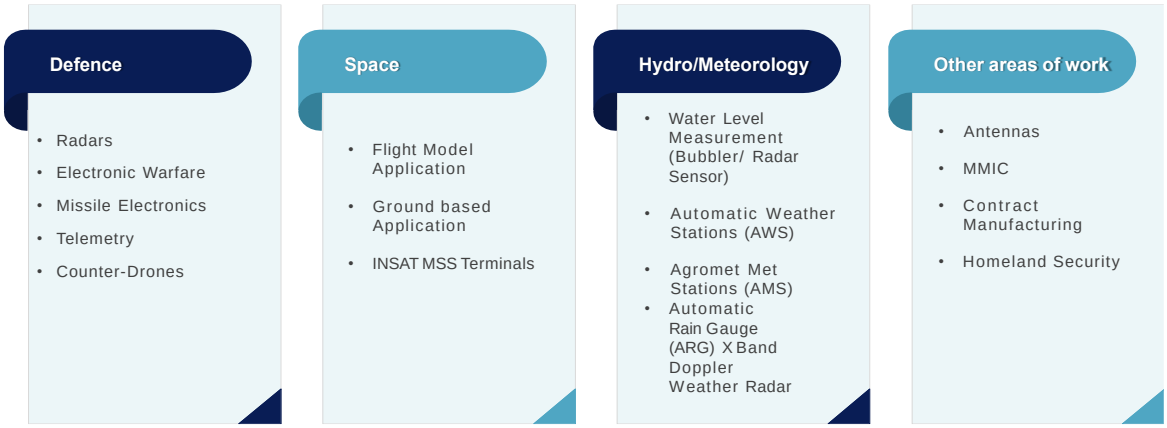
*Source: Company, Nirmal Bang Institutional Equities Research*

**Exhibit 13: Manufacturing units across India**




*Source: Company, Nirmal Bang Institutional Equities Research*

**Exhibit 14: Areas of Operation**

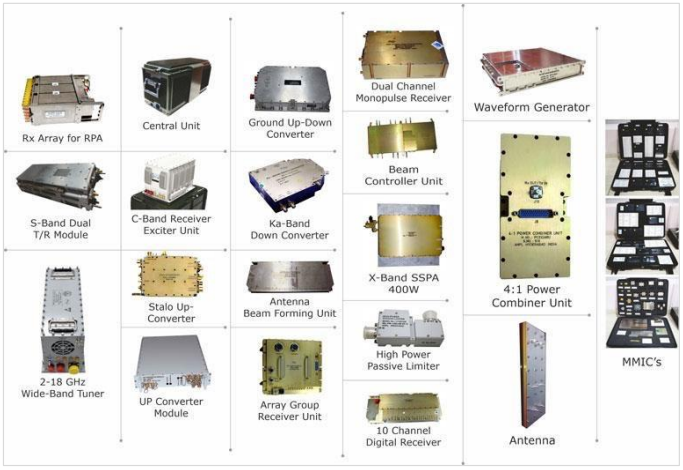



*Source: Company, Nirmal Bang Institutional Equities Research*

## Exhibit 15: Range of products

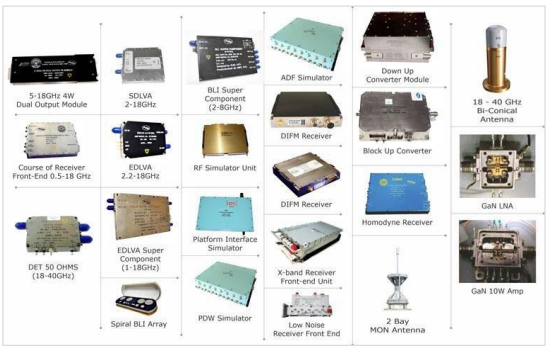
### Homeland security

- Counter UAV Radar – Drishti
- Perimeter Intrusion Detection Radar
- C-UAS System




Design & Development of complete Active Array Antenna Unit (AAAU) hardware, Signal Processing & Radar Data Processing for AESA Multi-Function Radar

### Electronic Warfare

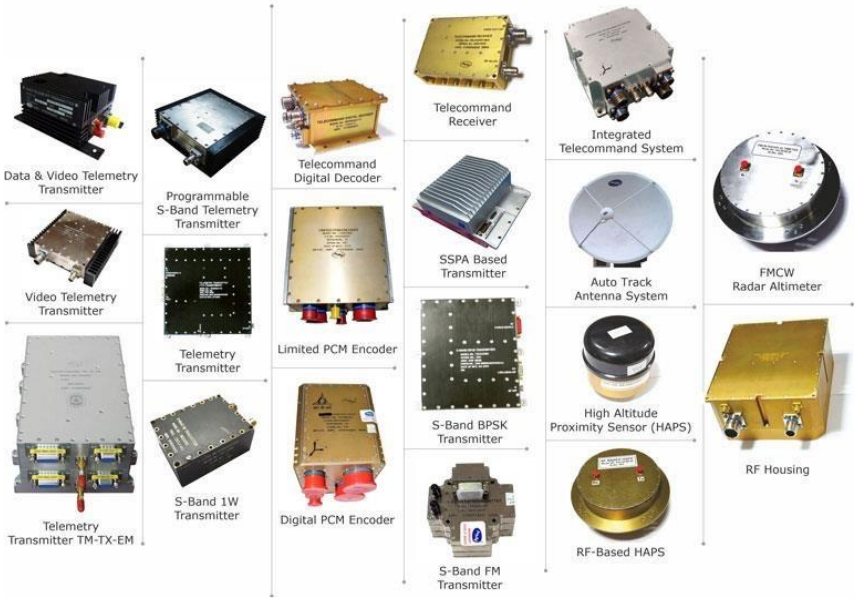


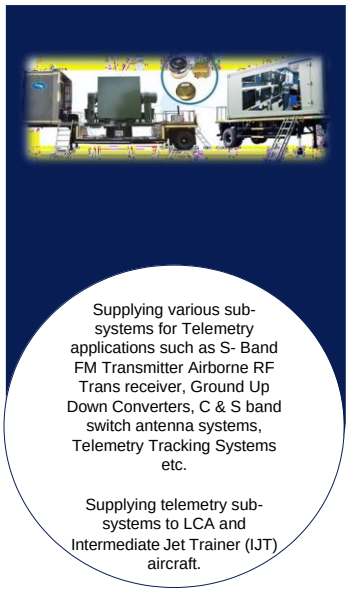


### Strategic Electronics

Supplying various kind of EW sub systems and components to DPSUs and to the programs of Indian Airforce, Indian Navy and Indian Army.

Also associated with Jammer's program of LCA Mk1A, Su-30 MKI and other fighter platforms in India.

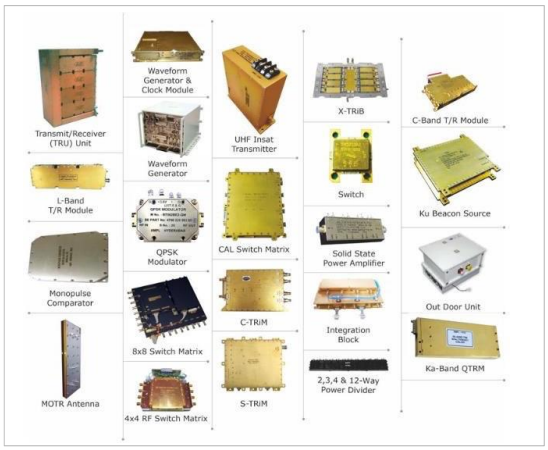


Supplying various sub-systems for Telemetry applications such as S- Band FM Transmitter Airborne RF Trans receiver, Ground Up Down Converters, C & S band switch antenna systems, Telemetry Tracking Systems etc.

Supplying telemetry sub-systems to LCA and Intermediate Jet Trainer (IJT) aircraft.

## Ground Application





## Flight model

Designs, develops and manufactures components and sub-systems used in ground-based modules and S-level (on-board) modules. Astra have been among the key players for the development of sub-systems for India's Radar Satellite & Geosynchronous Satellite program, Resourcesat, Megatropics and Cartosat for Indian space programs by ISRO

*Source: Company, Nirmal Bang Institutional Equities Research*

**Exhibit 16: Esteemed clientele**


*Source: Company, Nirmal Bang Institutional Equities Research*

## A reputable and experienced Management Team

### Mr. S. Gurunatha Reddy, Managing Director

Mr. S. Gurunatha Reddy is a graduate in Science and Mathematics and a Fellow Chartered Accountant. He has worked in private sector industry and has gained over 33 years of experience in accounting, finance, taxation, secretarial etc.

### Dr. M. Venkateshwar Reddy, Joint Managing Director

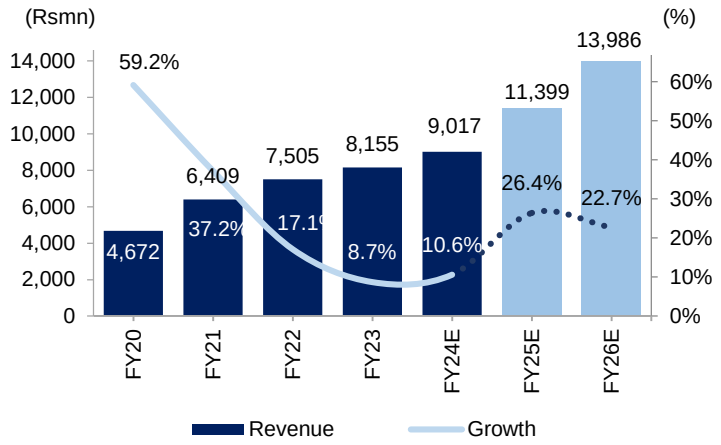
Dr. M. Venkateshwar Reddy is a Graduate in Engineering (Electronics) and a Post Graduate in Business Administration. He has 28 years of experience in handling Marketing and Business operations in the domain of Defence, Space and Telecom in India as well as overseas markets.

### Dr. Avinash Chander, Chairman & Independent Director

Dr. Avinash Chander is the former Secretary, Defence R&D and Director General, DRDO. An eminent scientist in the field of missiles, he has been a pioneer in Strapdown Inertial Navigation & Guidance. In addition, he has contributed to the development of several critical technologies in the field of radars, simulation, propulsion, control and system engineering.

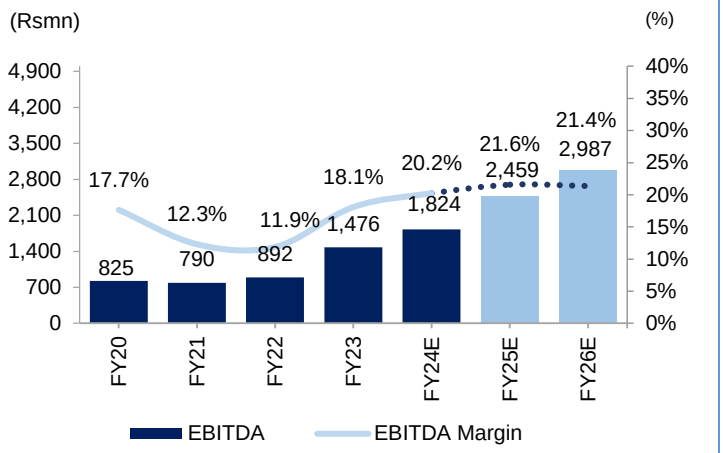
## AMPL: Key Performance Indicators

### Exhibit 17: Revenue CAGR at 25%+ in FY24-26E



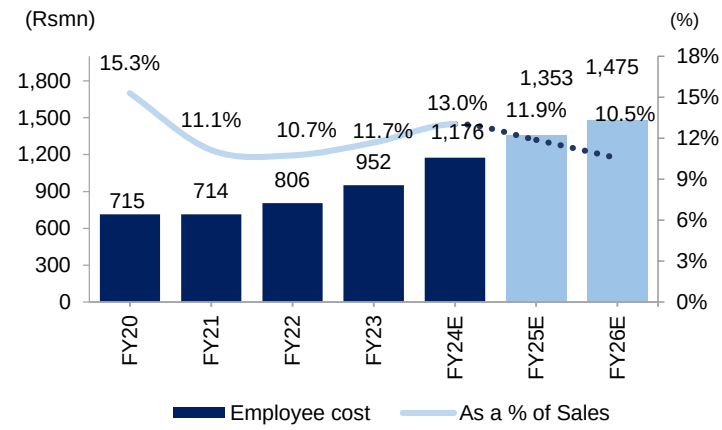

*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 18: EBITDA margin stable at 21% in FY24-26E



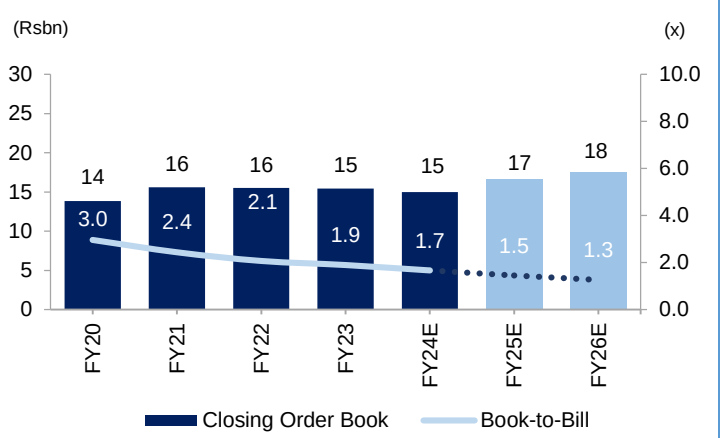

*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 19: Optimization of skilled workforce



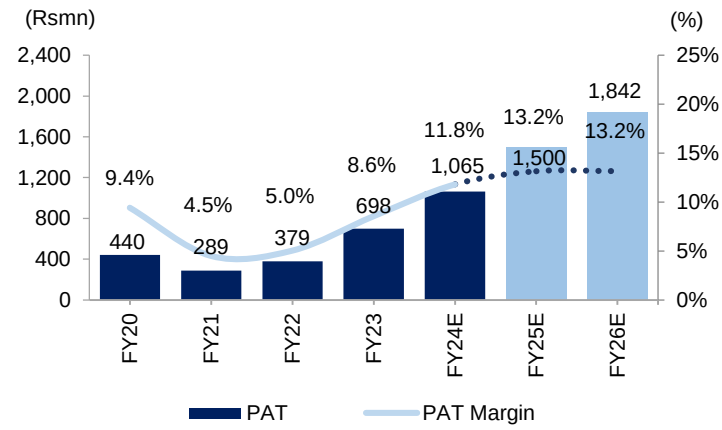

*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 20: Order book pick up pace post FY26E



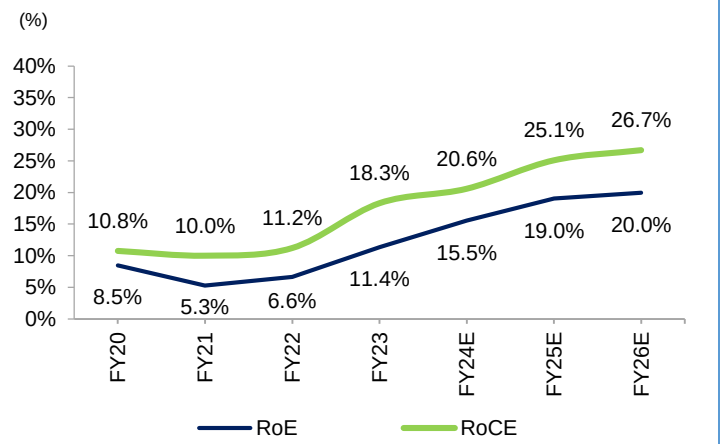

*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 21: PAT Margins stable at 13% in FY24-26E




*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 22: Return ratios to improve in forecast years




*Source: Company, Nirmal Bang Institutional Equities Research*

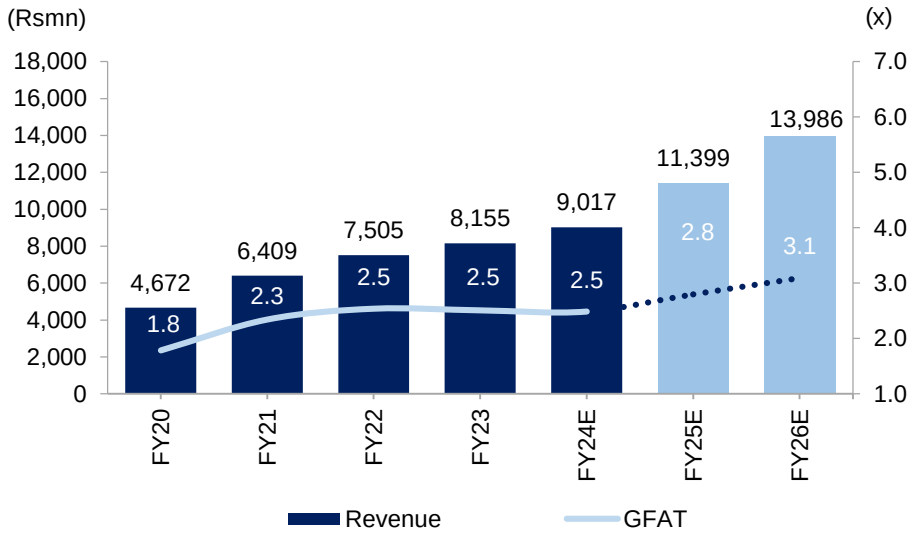
**Exhibit 23: Cash Conversion Cycle Trends**

| Cash Conversion Cycle | FY21 | FY22 | FY23 | FY24E | FY25E | FY26E |
|---|---|---|---|---|---|---|
| Debtor Days | 8 | 11 | 19 | 18 | 17 | 16 |
| Inventory Days | 251 | 259 | 295 | 270 | 260 | 250 |
| Payable Days | 40 | 32 | 36 | 38 | 40 | 42 |
| **CCC** | **218** | **238** | **278** | **250** | **237** | **224** |

*Source: Company, Nirmal Bang Institutional Equities Research*

The contract's execution will contribute to the decrease in collection cycles. Additionally, the cash conversion cycle grew from 218 days in FY21 to 278 days in FY23. We anticipate that the cash conversion cycle will improve in the upcoming years.

**Exhibit 24: Higher revenue to offset expansion plans**




*Source: Company, Nirmal Bang Institutional Equities Research*

A capital expenditure of Rs450mn has been planned for the next 12 months. Increased production and economies of scale will improve revenues and profitability.

**View and Valuation:**

Revenue growth is supported by a robust order book position that is greater than 1.8x the revenue as well as ongoing assistance from the Central Government to enhance defence production and exports in India. Furthermore, the management is emphasizing domestic sales more, which generates better profit margins than exports. We anticipate a revenue/EBITDA/PAT CAGR of 25%/28%/32% in FY24-26. Given the strong order book and revenue visibility, we assign a multiple at 40x +1 SD lower than the historical trend. We initiate a "BUY" with a target of Rs 776, valuing it at 40x March'26 EPS.

**Exhibit 25: Valuation summary**.

| Particulars | (Rs mn) |
|---|---|
| March'26E EPS | 19 |
| Target multiple (x) | 40.0 |
| **Target price (Rs)** | **776** |
| CMP (Rs) | 641 |
| **Upside / (downside) %** | **21%** |

*Source: Company, Nirmal Bang Institutional Equities Research*

## RISKS AND CONCERNS

### Credit Risk

The organization engages in business dealings across diverse sectors, serving government clients, private entities, and government-related ventures. In order to mitigate collection losses associated with consumer credit, the organization has implemented a structured protocol. The highest level of credit risk faced by the group is derived from trade receivables, advances, deposits, currency and bank balances, bank deposits, and interest receivable on deposits. Conversely, other financial assets exhibit minimal susceptibility to credit risk. Cash balances and bank deposits are strategically maintained with reputable financial institutions boasting strong credit ratings. Assessments of financial asset credit quality are considered satisfactory, subject to provisions for potential credit losses. Notably, the group's credit exposure is predominantly influenced by the uneven collection pattern observed with trade receivables.

Furthermore, an impairment analysis is conducted at each reporting date, with a focus on customer classification, distinguishing between government and non-government customers. The carrying value of each financial asset category represents the highest exposure to credit risk as of the reporting date.

### Liquidity risk

Management monitors cash and cash equivalents based on expected cash flows. The group monitors the expected cash inflows from financial assets and expected cash outflows on trade payables and other financial liabilities.

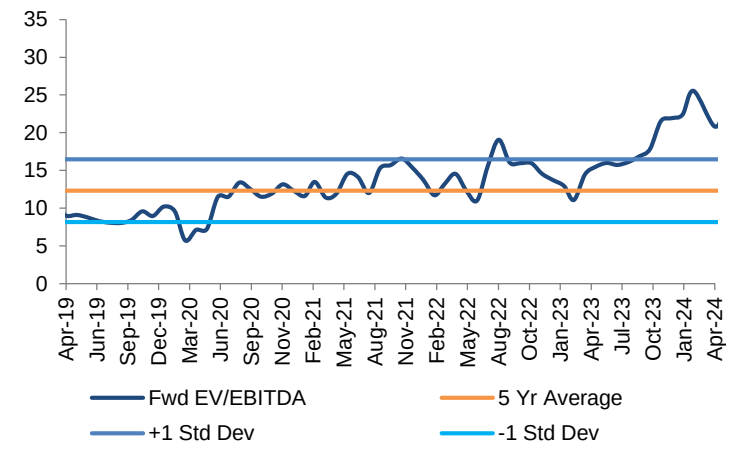
### Exposure to currency risk

The principal hazards pertain to the volatility of the USD, CHF, JPY, GBP and EURO about the group's functional currency. The impact of foreign currency fluctuations on the group's exposure to all other currencies is negligible. By determining its level of exposure to exchange rate risks, the group assesses the effects of foreign exchange rate fluctuations.

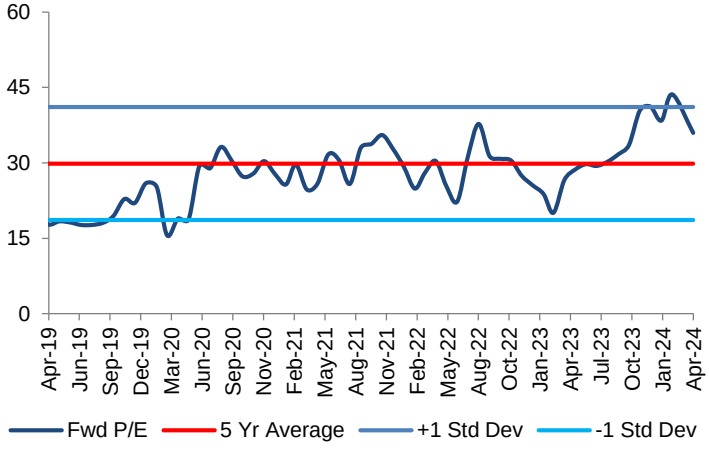
### Interest rate risk

The group's exposure to the risk of fluctuations in market interest rates is contingent on its debt obligations involving fluctuating interest rates. The administration closely monitors interest rate fluctuations and, whenever feasible, restructures its financing arrangement in response to significant changes in such rates. Given that the group does not possess any substantial interest-bearing assets, fluctuations in market interest rates have a negligible impact on its operating cash flows and income.

**Exhibit 26: Rolling valuation charts**




Source: Company, Nirmal Bang Institutional Equities Research




Source: Company, Nirmal Bang Institutional Equities Research

## Financial Statements

### Exhibit 27: Income statement

| Y/E March (Rs mn) | FY22 | FY23 | FY24E | FY25E | FY26E |
|---|---|---|---|---|---|
| **Net Sales** | **7,505** | **8,155** | **9,017** | **11,399** | **13,986** |
| Raw Material Consumed | 5,421 | 5,396 | 5,641 | 7,023 | 8,757 |
| Purchase of Traded Goods | (149) | (213) | (310) | (223) | (209) |
| Changes in Inventory | - | - | - | - | - |
| Employee Cost | 806 | 952 | 1,176 | 1,353 | 1,475 |
| Other expenses | 534 | 544 | 685 | 787 | 977 |
| Total Expenditure | 6,612 | 6,679 | 7,192 | 8,940 | 10,999 |
| **Operating profit** | **892** | **1,476** | **1,824** | **2,459** | **2,987** |
| *Operating profit margin (%)* | *11.9* | *18.1* | *20.2* | *21.6* | *21.4* |
| Other Income | 64 | 55 | 115 | 120 | 120 |
| Interest | 211 | 305 | 307 | 370 | 335 |
| Depreciation | 220 | 237 | 252 | 286 | 317 |
| PBT | 525 | 989 | 1,380 | 1,923 | 2,455 |
| Exceptional items | - | - | - | - | - |
| PBT post exc items | 525 | 989 | 1,380 | 1,923 | 2,455 |
| Tax | 123 | 261 | 398 | 423 | 614 |
| *Tax rate (%)* | *23.5* | *26.4* | *28.8* | *22.0* | *25.0* |
| PAT | 401 | 728 | 982 | 1,500 | 1,842 |
| **Adj PAT** | **379** | **698** | **1,065** | **1,500** | **1,842** |
| **EPS (Rs)** | **4.4** | **8.1** | **11.2** | **15.8** | **19.4** |

*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 28 Cash flow

| Y/E March (Rs mn) | FY22 | FY23 | FY24E | FY25E | FY26E |
|---|---|---|---|---|---|
| Profit before tax | 525 | 989 | 1,380 | 1,923 | 2,455 |
| Add: Depreciation & Impairment | 211 | 305 | 252 | 286 | 317 |
| Cash flow from operations before WC | 995 | 1,557 | 2,022 | 2,579 | 3,107 |
| Net change in Working capital | 383 | (1,526) | 2,735 | (796) | (855) |
| Tax paid | (208) | (256) | (398) | (423) | (614) |
| **Net cash from operations** | **1,169** | **(225)** | **4,359** | **1,360** | **1,639** |
| Capital expenditure | (279) | (333) | (450) | (449) | (449) |
| Free Cash Flow | 890 | -558 | 3909 | 911 | 1190 |
| Others | 20 | 126 | (0) | (1) | (1) |
| **Net cash from investing** | **(260)** | **(207)** | **(450)** | **(450)** | **(450)** |
| Issue of shares | 146 | 150 | - | - | - |
| Increase in debt | (276) | (440) | - | - | - |
| Dividends paid incl. tax | - | - | (211) | (298) | (365) |
| Interest paid | (10,101) | (2,065) | (307) | (370) | (335) |
| Others | 9,421 | 3,052 | - | - | - |
| **Net cash from financing** | **(810)** | **696** | **(518)** | **(668)** | **(700)** |
| Net Cash | 100 | 264 | 3,391 | 242 | 488 |
| Opening Cash | 175 | 297 | 561 | 3,952 | 4,194 |
| **Closing Cash** | **275** | **561** | **3,952** | **4,194** | **4,682** |

*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 29: Balance sheet

| Y/E March (Rs mn) | FY22 | FY23 | FY24E | FY25E | FY26E |
|---|---|---|---|---|---|
| Equity Capital | 173 | 173 | 173 | 173 | 173 |
| Other Equity | 5,683 | 6,253 | 7,106 | 8,309 | 9,785 |
| Minority interest | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 |
| Networth | 5,856 | 6,426 | 7,280 | 8,482 | 9,958 |
| Total Debt | 1,256 | 2,721 | 2,719 | 2,719 | 2,719 |
| Deferred tax liability | - | - | - | - | - |
| Other non-current liabilities | 43 | 66 | 66 | 66 | 66 |
| Trade Payables | 554 | 458 | 555 | 745 | 984 |
| Other Current Liabilities | 1,977 | 899 | 899 | 899 | 899 |
| **Total liabilities** | **9,685** | **10,570** | **11,518** | **12,911** | **14,625** |
| PPE | 1,586 | 1,661 | 1,855 | 2,019 | 2,150 |
| CWIP | 1 | 22 | 23 | 24 | 25 |
| Investment property | - | - | - | - | - |
| Intangible assets under development | - | - | - | - | - |
| Intangible Assets | 10 | 8 | 8 | 8 | 8 |
| Investments | 118 | 90 | 90 | 90 | 90 |
| Deferred Tax Assets | 69 | 91 | 91 | 91 | 91 |
| Other Non-Current Assets | 186 | 193 | 193 | 193 | 193 |
| Inventories | 4,193 | 4,191 | 3,944 | 4,843 | 5,854 |
| Trade receivables | 2,051 | 2,836 | 445 | 531 | 613 |
| Cash & Near-Cash Items | 275 | 561 | 3,952 | 4,194 | 4,682 |
| Other Current Assets | 1,195 | 918 | 918 | 918 | 918 |
| **Total Assets** | **9,685** | **10,570** | **11,518** | **12,911** | **14,625** |

*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 30: Key ratios

| Y/E March | FY22 | FY23 | FY24E | FY25E | FY26E |
|---|---|---|---|---|---|
| **Growth (%)** | | | | | |
| Sales | 17.1 | 8.7 | 10.6 | 26.4 | 22.7 |
| Operating Profits | 13.0 | 65.5 | 23.6 | 34.8 | 21.5 |
| Net Profits | 31.3 | 84.4 | 52.5 | 40.9 | 22.8 |
| **Leverage (x)** | | | | | |
| Net Debt: Equity | (0.01) | 0.12 | (0.36) | (0.34) | (0.34) |
| Interest Cover(x) | 3.2 | 4.1 | 5.1 | 5.9 | 8.0 |
| Total Debt/EBITDA | 0.79 | 1.26 | 1.02 | 0.75 | 0.62 |
| **Profitability (%)** | | | | | |
| OPM | 11.9 | 18.1 | 20.2 | 21.6 | 21.4 |
| NPM | 5.3 | 8.9 | 10.9 | 13.2 | 13.2 |
| ROE | 6.6 | 11.4 | 15.5 | 19.0 | 20.0 |
| ROCE | 11.2 | 18.3 | 20.6 | 25.1 | 26.7 |
| **Turnover ratios (x)** | | | | | |
| GFAT | 2.5 | 2.5 | 2.5 | 2.8 | 3.1 |
| Debtors Turnover(x) | 0.3 | 0.3 | 0.0 | 0.0 | 0.0 |
| WC days | 238 | 278 | 250 | 237 | 224 |
| **Valuation (x)** | | | | | |
| P/E | 146.5 | 79.5 | 57.2 | 40.6 | 33.1 |
| P/B | 9.5 | 8.6 | 8.4 | 7.2 | 6.1 |
| EV/EBIDTA | 62.1 | 38.1 | 31.9 | 23.6 | 19.2 |

*Source: Company, Nirmal Bang Institutional Equities Research*

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# Paras Defence and Space Technologies

Defence | Initiating Coverage

**ACCUMULATE**

**CMP: Rs706 | Target Price (TP): Rs714 | Upside: 1%**

**April 5, 2024**

## Unleashing potential

**Key Points**

- Paras Defence and Space Technologies (PDSTL) is a leading 'Indigenously Designed, Developed and Manufactured' ("IDDM") private sector company with competencies in the domains of Submarine Optronic Periscopes, Remotely Controlled Border Defence Systems, Hyperspectral Imaging Systems, and Electromagnetic Pulse (EMP) Protection Solutions. PDSTL is also the sole Indian supplier of critical imaging components such as large-size optics and diffractive gratings for space applications in India.
- The company evaluates emerging opportunities in the rapidly growing drone and anti-drone markets. The drone market in India is projected to grow at avg. of 47% Y-o-Y to $13 Bn by 2030, up from $2.71 Bn in 2022, establishing India as a key player in Asia Pacific (APAC) for driving this growth (source: Inc42's).
- It is the sole private Indian company in the Asia-Pacific region that manufactures a submarine-grade optronic periscope turnkey.
- The management has guided revenue growth to 30-40% for FY25 and maintained higher profitability. NBIE expects Revenue/EBITDA/PAT CAGR at 13%/34%/37% over FY24-26.
- We assign a multiple at 52x +1 SD lower than the historical trend. We propose ACCUMULATE, with an upward bias and a target price of Rs 714/share (52 x Mar'26E EPS).

The Indian space industry is expected to finish numerous major projects in the future years, including interplanetary missions and the unmanned Gaganyaan mission. The space budget is expected to be USD1.56 billion in FY 25, representing a 4% increase over the previous year for large-scale projects as well as various operational and developmental efforts. ISRO used the LVM-3 to launch Chandrayaan-2, India's third lunar mission, in July 2023. ISRO plans to study surrounding planets and the moon using the Small Satellite Launch Vehicle (mini-PSLV), the Aditya L1 solar mission, the Chandrayaan-3 Moon mission, and other satellites. IN-SPACe's 10-year ambition is to build a $44 billion space economy by 2033.

**Views & Valuation:** We believe that the company's exposure to high-growth opportunistic sectors (such as drones and anti-drones) and its diversified portfolio of businesses, which includes leadership positions in niche areas (including optics, EMP solutions, and defence electronics), will contribute to industry-leading growth. The combination of internal R&D, and OEM partnerships/collaboration reduces the company's exposure to risk while allowing it to pursue a broader range of emergent opportunities, according to the management, As the defence electronics segment expands and the high margin optics segment maintains a growth rate above the company's average, operating margins are likely to remain stable.

| | |
|---|---|
| Est Change | - |
| TP Change | - |
| Rating Change | - |

**Company Data and Valuation Summary**

| | |
|---|---|
| Reuters | PRAF.BO |
| Bloomberg | PARAS IN Equity |
| Market Cap (Rsbn / US$mn) | 27.5 / 330.4 |
| 52 Wk H / L (Rs) | 848 / 479 |
| ADTV-3M (mn) (Rs / US$) | 303.1 / 3.6 |
| Stock performance (%) 1M/6M/1yr | (3.1) / (1.1) / 47.4 |
| Nifty 50 performance (%) 1M/6M/1yr | 2.4 / 3.7 / 27.9 |

| Shareholding | 1QFY24 | 2QFY24 | 3QFY24 |
|---|---|---|---|
| Promoters | 58.9 | 58.9 | 58.9 |
| DIIs | 2.2 | 2.7 | 2.7 |
| FIIs | 0.1 | 0.6 | 0.5 |
| Others | 38.7 | 37.8 | 37.8 |
| Pro pledge | 0.0 | 0.0 | 0.0 |

| Top Shareholders | % of Company |
|---|---|
| Nippon Life India Asset Management | 2.69 |
| Mahajan Amit | 1.79 |
| Mahajan Shilpa | 1.79 |
| State Street Corp | 0.05 |

**Financial and Valuation Summary**

| Particulars (Rs mn) | FY23 | FY24E | FY25E | FY26E |
|---|---|---|---|---|
| Net Sales | 2,224 | 2,450 | 2,737 | 3,121 |
| *Growth YoY (%)* | *21.8* | *10.2* | *11.7* | *14.0* |
| EBITDA | 567 | 531 | 704 | 960 |
| *EBITDA margin (%)* | *25.5* | *21.7* | *25.7* | *30.8* |
| Adj. PAT | 360 | 257 | 330 | 483 |
| *Growth YoY (%)* | *32.6* | *(28.4)* | *28.3* | *46.1* |
| EPS (Rs) | 9.2 | 6.6 | 8.5 | 12.4 |
| *RoE (%)* | *9.1* | *6.0* | *7.2* | *9.7* |
| EV/EBITDA | 48.1 | 50.2 | 37.2 | 26.8 |
| P/E (x) | 76.6 | 107.0 | 83.4 | 57.1 |

*Source: Bloomberg, Company, Nirmal Bang Institutional Equities Research*

**Key Links :**

FY23 Annual Report | 3QFY24 Result

*Please refer to the disclaimer towards the end of the document.*

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## Company background

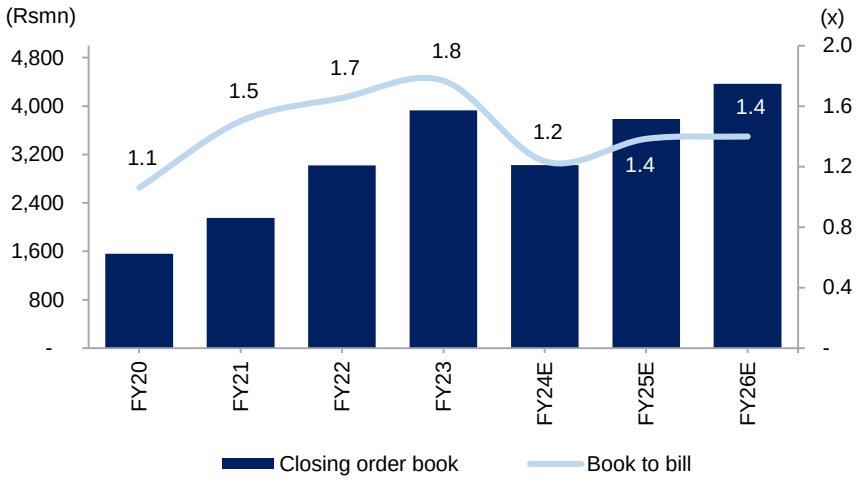
Paras Defence and Space Technologies (PDSTL) is a private sector company primarily engaged in designing, developing, manufacturing, and testing of a variety of defence and space engineering products and solutions. The company caters to four major segments - Defence & Space Optics, Defence Electronics, Heavy Engineering and Electromagnetic Pulse Protection Solutions.

It is also the sole Indian supplier of critical imaging components such as large-size optics and diffractive gratings for space applications in India and utilizes opto-mechanical assemblies. The company offers a range of 33 different categories of products and solutions, with multiple variations in each category. It is also in the process of expanding its role from just being a component manufacturer to a complete subsystem manufacturer.

## Investment Argument:

Around 66% of the total revenue of Paras Defence comes from heavy engineering, defense, and optronics (fabrication of metals + manufacture of lenses) from their Ambernath manufacturing unit. The remaining comes from space optics, an industry that has existed for 50 years. It has expertise in space optics and optronic systems like satellite hyperspectral imaging systems. As the satellite business is recurring, Revenue visibility is vital in the optics segment. Paras mostly deals with optics for low-orbit satellites with a life span of 1~2 years. With the government pushing for "Make in India," there is more headroom for revenue generation.

**Exhibit 1: Orders to remain stable**




*Source: Company, Nirmal Bang Institutional Equities Research*

**Current and future order inflows**

- **Submarine Optronic Periscope:** 4 are under construction, and 5 are in the pipeline. The company has already built 1 for submarines and is expected to deliver 2 more, 1 each in FY24 and FY25, respectively.
- Refurbishment of 10+ nos for the old platforms during FY24-FY26
- Huge business potential for new platforms, refurbished systems, repairs, and possibilities of exports
- **Defence Engineering:** In the defence engineering segment, the company has been winning L3 contracts from the Ministry of Defence (MOD). The government's focus on quality offers an additional advantage to Indian private companies against foreign firms, with Atmanirbhar Bharat gaining momentum.

- In our interaction the company plans to diversify into fabrication of railway coaches (an 11% jump in manufacturing of coaches by the Indian Railways in FY24) for the central railway. Given the scope and demand for railway coaches from Vande Bharat and Gati Sakti this could be major revenue builder for the company.
- NBIE thus, believes that the company can maintain an avg. revenue growth of 13%+ during FY24-FY26

**Exhibit 2: Concentration on development and sale of products**

| Revenue From Operations (Rsmn) | FY21 | FY22 | FY23 | FY24 | FY25 | FY26 | FY24-FY26 |
|---|---|---|---|---|---|---|---|
| Sale of Products | 1,419 | 1,763 | 2,134 | 2,328 | 2,617 | 2,984 | 13.2% |
| *% of total revenue* | *99%* | *97%* | *96%* | *95%* | *96%* | *96%* | - |
| *y-o-y growth (%)* | *0%* | *24%* | *21%* | *9%* | *12%* | *14%* | - |
| Sale of Services | 15 | 62 | 73 | 83 | 93 | 106 | 12.9% |
| *% of total revenue* | *1%* | *3%* | *3%* | *3%* | *3%* | *3%* | - |
| Other Operating revenue | - | 0.4 | 17 | 39 | 27 | 31 | - |
| **Total** | **1,433** | **1,826** | **2,224** | **2,450** | **2,737** | **3,121** | **12.9%** |

*Source: Company, Nirmal Bang Institutional Equities Research*

**Exhibit 3: Heavy engineering to gain traction in the ensuing years**

| Revenue Disaggregation | FY21 | FY22 | FY23 | FY24 | FY25 | FY26 | FY24-FY26 |
|---|---|---|---|---|---|---|---|
| Heavy Engineering | 378 | 419 | 688 | 637 | 739 | 874 | 17.1% |
| *% of total revenue* | *26%* | *23%* | *31%* | *26%* | *27%* | *28%* | - |
| Defence Electronics | 406 | 483 | 822 | 1,005 | 1,122 | 1,280 | 12.9% |
| *% of total revenue* | *28%* | *26%* | *37%* | *41%* | *41%* | *41%* | - |
| Defence & Space Optics | 649 | 924 | 714 | 809 | 931 | 1,093 | 16.2% |
| *% of total revenue* | *45%* | *51%* | *32%* | *33%* | *34%* | *35%* | - |
| **Total** | **1,433** | **1,826** | **2,224** | **2,450** | **2,737** | **3,121** | **12.9%** |

*Source: Company, Nirmal Bang Institutional Equities Research*

**Exhibit 4: Indigenization offers significant opportunities for growth**

| Distribution by Geography | FY21 | FY22 | FY23 | FY24 | FY25 | FY26 | FY24-FY26 |
|---|---|---|---|---|---|---|---|
| India | 1,192 | 1,593 | 1,873 | 2,063 | 2,327 | 2,684 | 14.1% |
| *% of total revenue* | *83%* | *87%* | *84%* | *84%* | *85%* | *86%* | - |
| Outside India | 242 | 232 | 352 | 387 | 411 | 437 | 6.2% |
| *% of total revenue* | *17%* | *13%* | *16%* | *16%* | *15%* | *14%* | - |
| **Total** | **1,433** | **1,826** | **2,224** | **2,450** | **2,737** | **3,121** | 12.9% |

*Source: Company, Nirmal Bang Institutional Equities Research*

**Decline in exports due to strong domestic demand:** Exports contribute 16% of the total revenue. The management has guided that it will focus more on the domestic market due to high growth for private companies in the defence industry.

The order book has been consistently increasing annually due to growing customer confidence and the Government of India (GOI) initiatives in the sector. The company does not have long-term orders in the defence sector; however, orders from the space sector are recurring.

**Exhibit 5: Strategic diversification of portfolio will maintain return ratios**

| Segment | Growth Drivers |
|---|---|
| Optronic & Optical Periscope for Submarines | • Projected requirement of 15+ for the next 3 years<br>• Potential for New Platforms, Refurbished Systems, Repairs and exports |
| Optics & Opto-Mech Assemblies for Defence & Space | • Only Pvt. Indian Company to develop and deliver a Hyperspectral Camera for Space Mission |
| Defence Electronics | • Completely in-house designed and developed Hyperspectral Imaging systems<br>• Applications in Defence, Medical, Agricultural, Botanical and Food Safety |
| Border Surveillance & Defence Systems | • Only Company to have successfully developed a complete functional system.<br>• Projected requirement of 4000+ for the next 5 to 10 years and Export business potential |
| Anti-Drone Solutions | • Demand from France, 100% designed, developed and manufactured in India |
| EO/IR Systems | • IRST – Infra-Red Search & Tracking System<br>• Optical Camera Systems for Combat Aircrafts |
| Drones for Agricultural and Other Applications | • DGCA Certified Agri-Drone |
| EMP Protection Solutions | • EMP is the Future Warfare and hence the protection requirements will exponentially increase YoY basis |
| Quantum Communications | • Quantum Communication will have a huge business potential requiring secured and fast communication between two nodes |

*Source: Company, Nirmal Bang Institutional Equities Research*

**Exhibit 6: Growth Opportunities for PDSTL**


*Source: Company, Nirmal Bang Institutional Equities Research*

**Competitive Landscape:**

1. Several firms produce specific items that PDSTL distributes in different global markets, but the company has no direct competition as it provides customers with comprehensive solutions that cater to their diverse needs. Horizontal integration is a significant competitive advantage for the company because it enables it to support major Tier 1 Indian defense suppliers, including Larsen & Toubro, Tata Advanced Systems Limited, and Solar Industries Limited, and to deliver customized products for the Indian armed forces.
2. Due to its unique technological capabilities in optics and EMP Hardening, the company is expected to be a crucial stakeholder in most forthcoming defense initiatives utilizing local procurement. Additionally, by supplying ISRO and other clients, the company has established its products' dependability, providing it with a competitive advantage over new industry entrants.
3. The company regularly invests in technology, equipment, and skilled employees to improve customer experience. High-quality, innovative, and technology-driven products, and solutions provide an early-mover advantage, higher profit margins, and opportunities to capture shifts in customer needs. Led by its unique R&D capabilities, the company is set to become a preferred supplier to this segment.

### Research and Development

PDSTL's R&D skills enable the development of various novel products and solutions, including hyper spectral space cameras, ARINC-818-based avionic displays, naval periscopes, and optical solar reflectors, establishing it as one of the premier IDDM category firms in the Indian defence sector. PDSTL's revenue is mostly derived from contracts with defence public sector enterprises (DPSUs) and government space research agencies. Notable customers include Bharat Electronics (BEL), Hindustan Aeronautics (HAL), Bharat Dynamics (BDL), and Solar Industries, among others.

## The Management Team

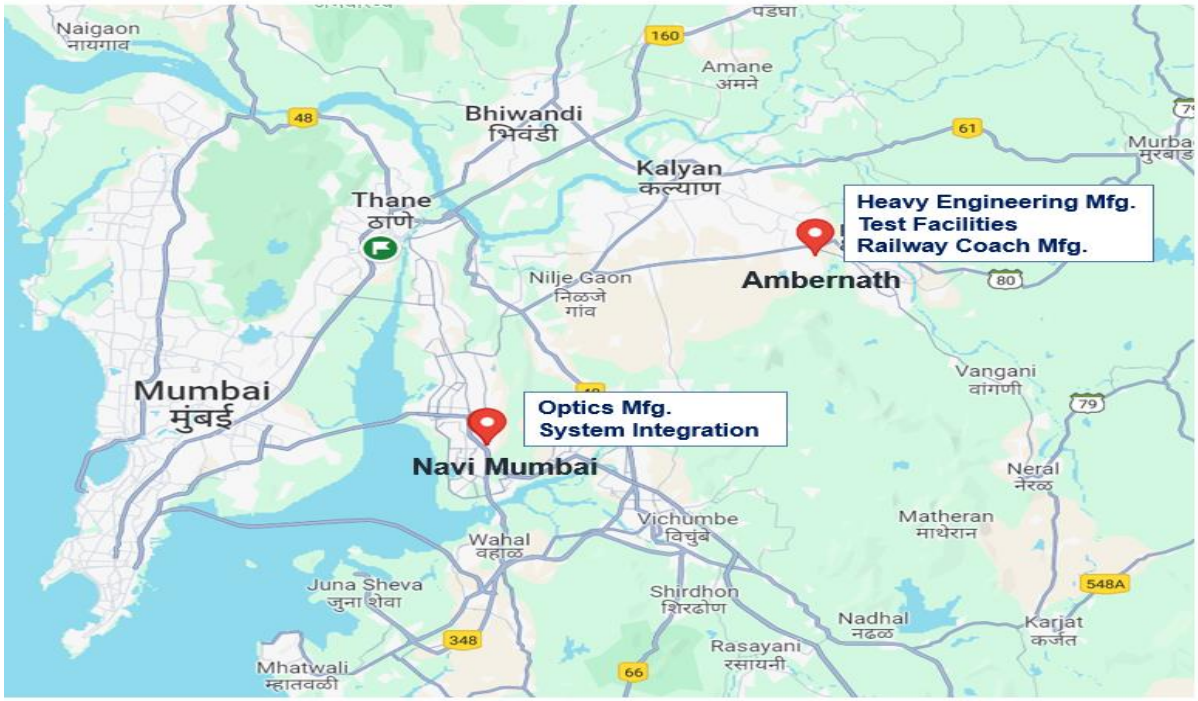
### Mr. Sharad Virji Shah, Chairman

Mr. Sharad Virji Shah is the Chairman and Non-Executive Director of the company. He is the Promoter and has been associated with the company from its incorporation. He has worked in different areas of engineering and manufacturing. He has played a major role in providing leadership to the company.

### Mr. Munjal Sharad Shah, MD

Munjal Sharad Shah is the company's Managing Director. He has over 23 years of experience in flow forming, special purpose machines and equipment, turnkey mechanical units, and titanium structures, primarily for defence applications, and has played a major role in providing the company with leadership.

**Exhibit 7: Plant capacity and product mix:**

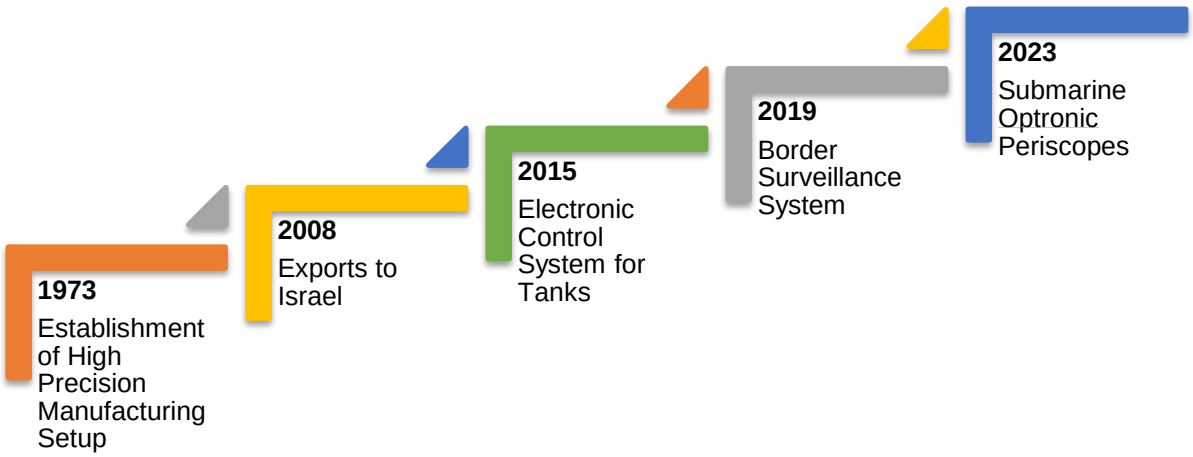



*Source: Nirmal Bang Institutional Equities Research*

PDSTL operates out of two units in Maharashtra: Nerul in Navi Mumbai, and Ambernath in Thane. The Nerul facility is an advanced nanotechnology machining centre that produces high-quality optics and ultra-precision components, as well as the design, development, manufacturing, and integration of electronics and EMP protection products and solutions.

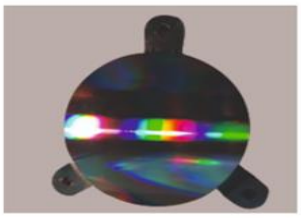
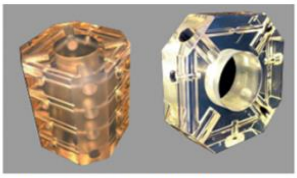
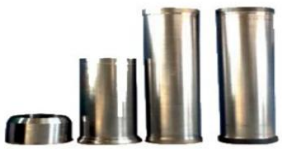
The Ambernath facility manufactures heavy engineering products such as flow-formed motor tubes, vacuum brazed cold plates, titanium structures and assemblies, and so on.

**Exhibit 8: Journey from lenses to Periscopes!**



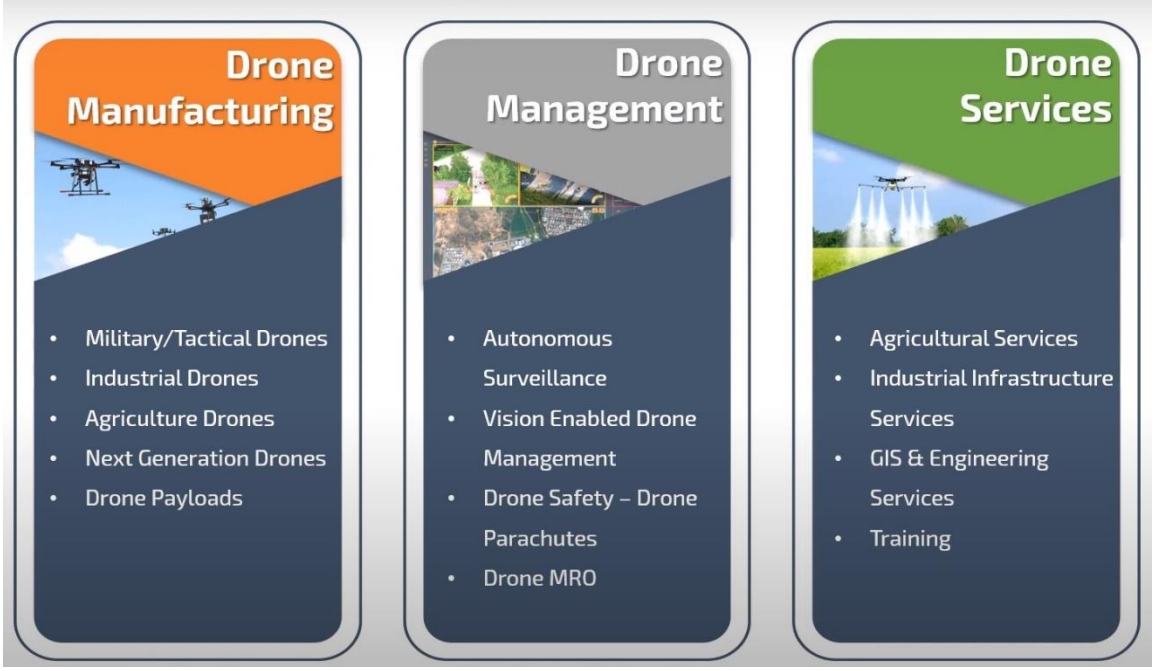

*Source: Company, Nirmal Bang Institutional Equities Research*

**Exhibit 9: Well diversified product portfolio**

| | | | |
|---|---|---|---|
| **DEFENCE AND SPACE OPTICS** | | | |
| • Optical components for thermal imaging cameras<br>• Night vision equipment for border security officers |  <br>INFRARED LENSES | • Optical component for hyperspectral cameras<br>• Array of space applications, including Earth observation, among many others |  <br>DIFFRACTIVE GRATINGS |
| • Applications in avionics and space travel |  <br>GYROSCOPE COMPONENTS | • Metal Mirrors – Applications in large-scale, long-range imaging devices like telescopes ZERODUR mirrors and ZERODUR lens typically made up of Astro-Sital Fused Silica, Bk7, Ohara & Schott material<br>• Optical Domes - Integrated into missiles to ensure precise target acquisition. | |
| **DEFENCE ELECTRONICS** | | | |
| • Application in target tracking, fire control, and command control |  <br>RUGGED CONTROL SYSTEMS | • Multiple displays and advanced computing power.<br>• Applications in radar data processing and fire control. |  <br>COMPUTING CONSOLES |
| • High-end compact computers feature built-in displays for harsh environmental conditions |  <br>COMPUTER SERVERS | • Non-contact proximity sensor - n on-contact electro-mechanical proximity sensor technology ensures high accuracy even in challenging underwater conditions including high pressure and salinity. | |
| **HEAVY ENGINEERING FOR DEFENCE** | | | |
| • Essential mechanical components of rockets and missiles. |  <br>FLOW-FORMED TUBES | • Application in transducer hardware for submarines and naval vessels. |  <br>TITANIUM STRUCTURES AND ASSEMBLIES |
| • EMP resilience used for high-end strategic applications |  <br>EMP HARDENED PRODUCTS | • Application in submarines |  <br>PERISCOPE |

*Source: Company, Nirmal Bang Institutional Equities Research*

**Exhibit 10: Establishing presence in the Drone industry**




*Source: Company, Nirmal Bang Institutional Equities Research*

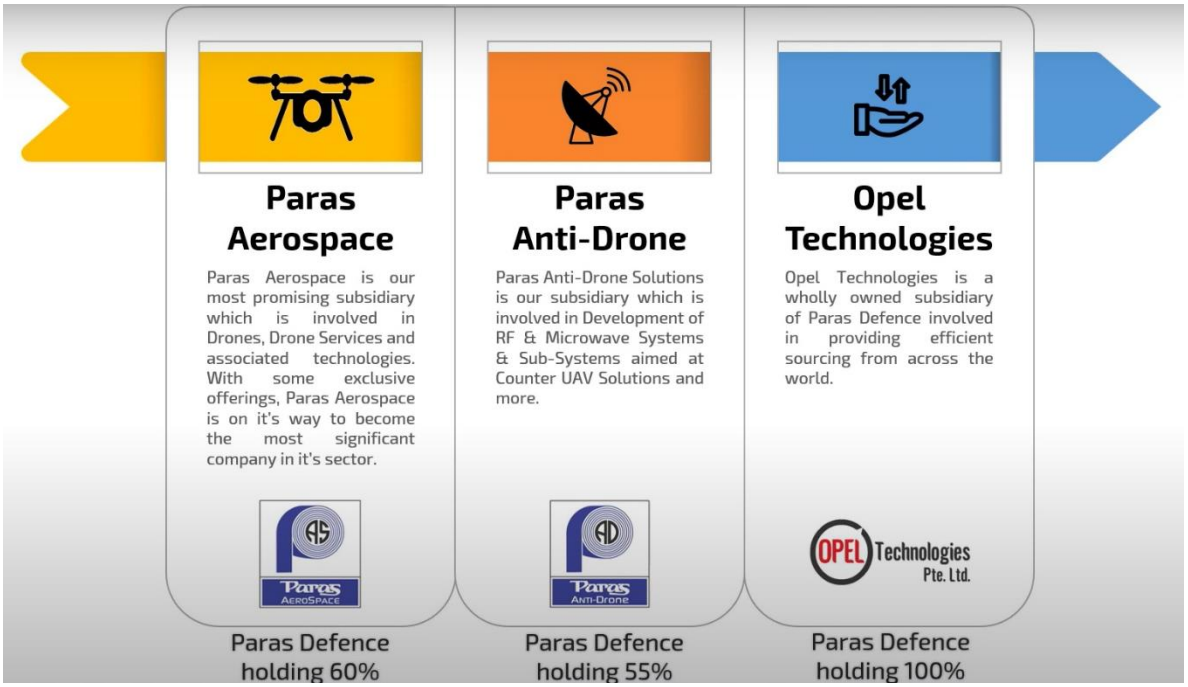
**Exhibit 11: Marquee clientele**

**Tie-ups with Global Institutions**

The company has partnered with many technology companies including HPS, GmbH for Large Deployable Antennas for space, Invent, GmbH for CFRP structures for space, and Kley, France for military winches helping it to serve as the manufacturing partner for global customers of such companies.


*Source: Company, Nirmal Bang Institutional Equities Research*

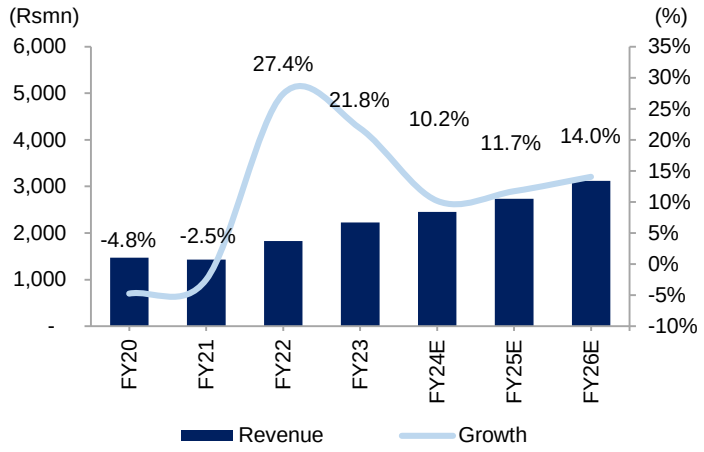
**Exhibit 12: Subsidiaries:** Developing next-generation jammers with CerbAir




*Source: Company, Nirmal Bang Institutional Equities Research*

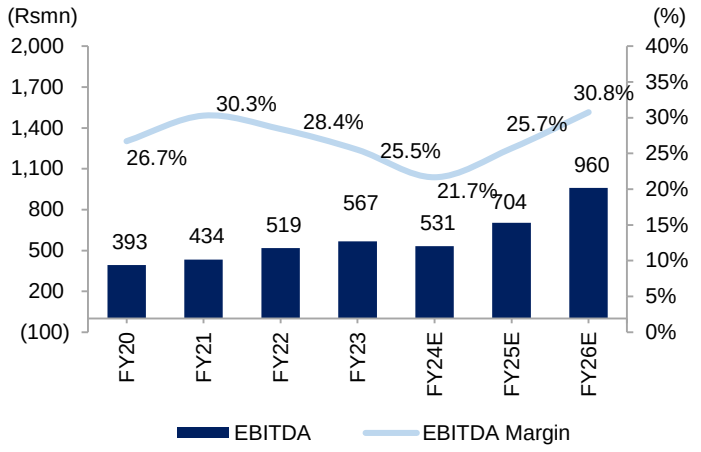
## PDSTL Key Performance Indicators

**Exhibit 13: Revenue to pick up with order book visibility**



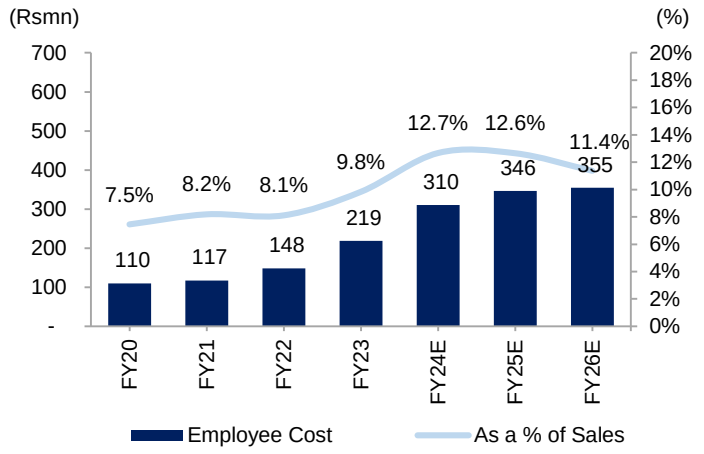

*Source: Company, Nirmal Bang Institutional Equities Research*

**Exhibit 14: Localised production to improve margins**



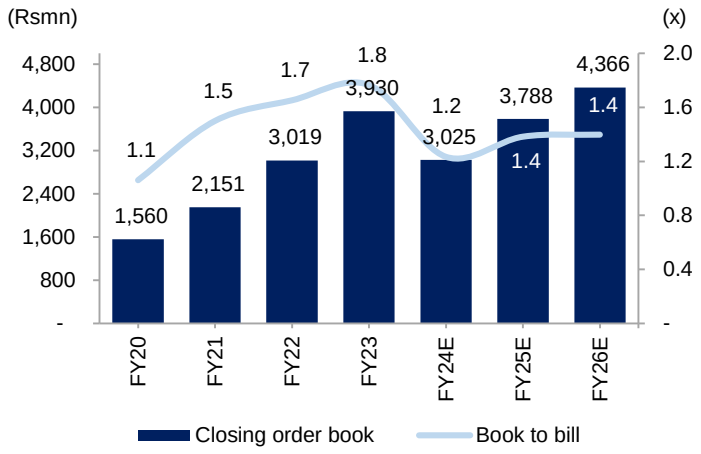

*Source: Company, Nirmal Bang Institutional Equities Research*

**Exhibit 15: Employee costs to improve with higher turnover**



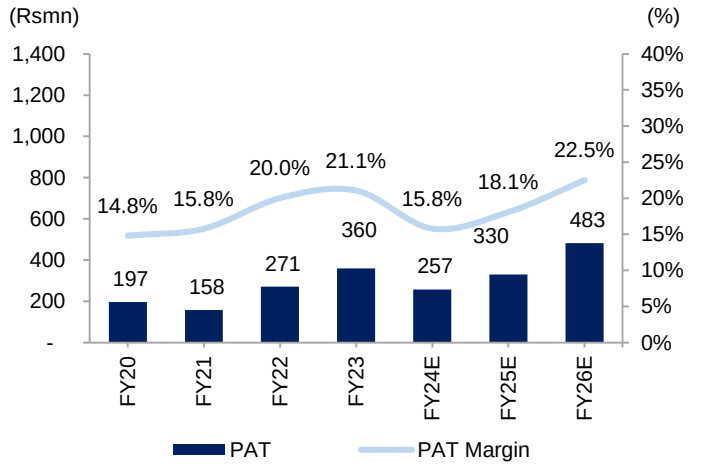

*Source: Company, Nirmal Bang Institutional Equities Research*

**Exhibit 16: Big ticket orders to enhance revenue growth**



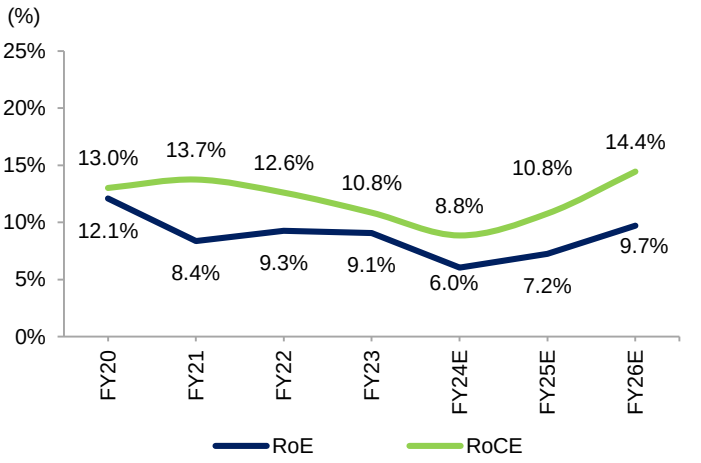

*Source: Company, Nirmal Bang Institutional Equities Research*

**Exhibit 17: Expect scale to improve profitability**




*Source: Company, Nirmal Bang Institutional Equities Research*

**Exhibit 18: Return ratios to improve in forecast years**




*Source: Company, Nirmal Bang Institutional Equities Research*

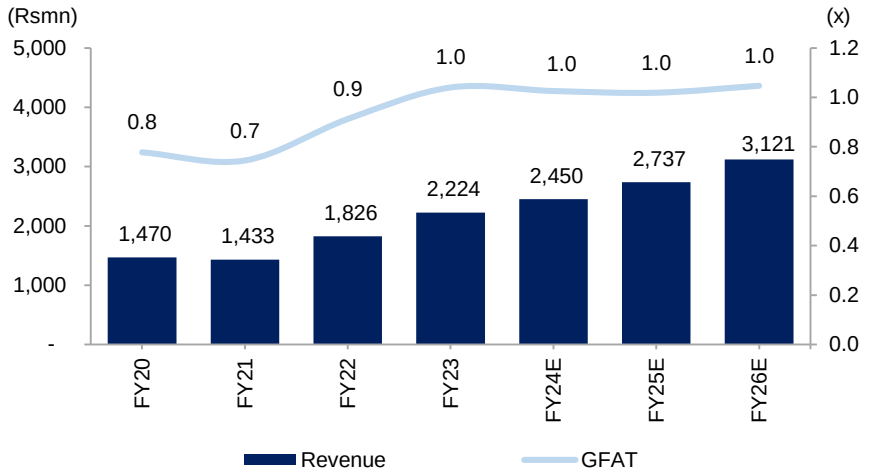
**Exhibit 19: Gradual increase in payable days with overall working capital cycle improving, a strong positive for the company**

| Cash Conversion Cycle | FY21 | FY22 | FY23 | FY24E | FY25E | FY26E |
|---|---|---|---|---|---|---|
| Receivable Days | 245 | 218 | 224 | 200 | 198 | 195 |
| Inventory Days | 378 | 316 | 277 | 270 | 268 | 266 |
| Payable Days | 118 | 68 | 72 | 70 | 68 | 68 |
| **CCC** | 504 | 465 | 430 | 400 | 398 | 393 |

*Source: Company, Nirmal Bang Institutional Equities Research*

PDSTL anticipates the working capital cycle to reach 393 by FY26. Additionally, manufacturing contract executions are increasing, which will shorten collection periods.

**Exhibit 20: Higher revenue to offset expansion plans**




*Source: Company, Nirmal Bang Institutional Equities Research*

PDSTL invested Rs. 150 mn in FY 2022-23 to boost capacity with new plant and machinery and expand amenities in one of its buildings.

## View and Valuation:

While management has guided sales growth to 30-40% in FY25 while retaining profitability, NBIE will proceed cautiously and wait for a clearer understanding of the company's long-term aims and strategy. We assign a multiple at 52x +1 SD lower than the historical trend. We recommend ACCUMULATE (until further information becomes available), with an upward bias and a target price of Rs 714 per share (52 x Mar'26E EPS).

**Exhibit 21: Valuation summary.**

| Particulars | (Rs mn) |
|---|---|
| March 26E EPS | 14 |
| Target multiple (x) | 52.0 |
| **Target price (Rs)** | **714** |
| CMP (Rs ) | 706 |
| **Upside / (downside) %** | **1%** |

*Source: Company, Nirmal Bang Institutional Equities Research*

**Key Risks:**

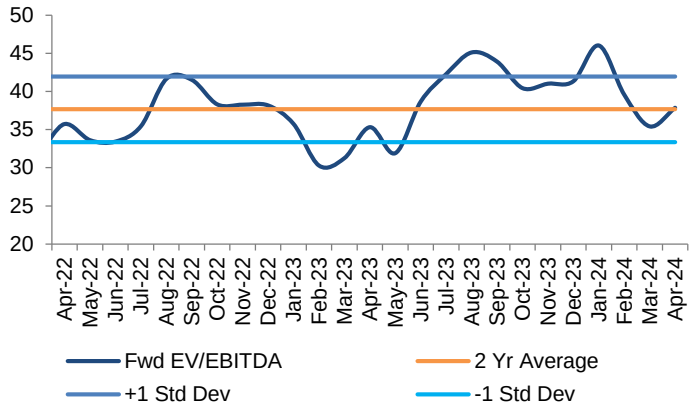
**Internal**

- Loss, shutdown or slowdown of business operations could have adverse material impact on the business, operations and financial condition.
- Dependence on a limited number of customers: Loss of any major customers due to any adverse development or significant reduction in business could negatively affect the company's business, financial condition, operations and future prospects.
- It is largely dependent on contracts from the GoI and associated entities including defence public sector undertakings and government organizations involved in space research. A decline or reprioritisation of the Indian defence or space budget, reduction in orders, termination of existing contracts, delay of existing or anticipated contracts or programmes or any unfavourable change in the GoI's defence or space related policies can affect the company adversely
- Strict quality requirements, customer inspections and audits are needed. Any failure to comply with quality standards may lead to cancellation of existing and future orders and negatively impact the company's reputation and business.
- Any failure to comply with the provisions of the contracts entered into with customers, especially the Government of India entities.
- Additionally, imposition of liquidated damages and invocation of performance bank guarantees / indemnity bonds by the customers could lead to potential liabilities from lawsuits and claims by customers in the future.
- Failure to obtain, maintain or renew statutory and regulatory licenses, permits and approvals.
- Developing customised products and solutions and other R&D activities involve risks and the company may not realize the degree or timing of benefits initially anticipated leading to satisfactory returns. Inability to successfully grow UAV integration solutions and services segment.
- Losses under fixed price contracts as a result of cost overruns, delays in delivery or failures to meet contract specifications.

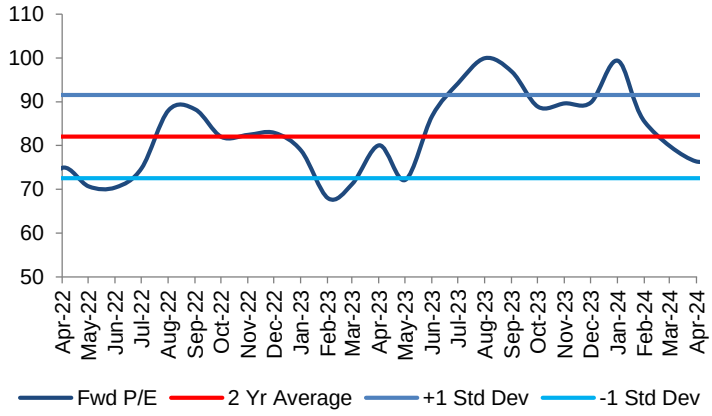
**External Risks**

- Currency exchange rate fluctuations
- A slowdown in economic growth in India. Unforeseeable business interruptions, including war, pandemic, terrorist activities, political and social unrest, epidemics and natural disasters, such as earthquakes, could have a negative effect on the Indian economy and adversely affect business.
- Changing laws, rules and regulations and legal uncertainties, including adverse application of corporate and tax laws.

**Exhibit 22: Rolling valuation charts**




*Source: Company, Nirmal Bang Institutional Equities Research*




*Source: Company, Nirmal Bang Institutional Equities Research*

## Financial Statements

### Exhibit 23: Income statement

| Y/E March (Rs mn) | FY22 | FY23 | FY24E | FY25E | FY26E |
|---|---|---|---|---|---|
| **Net Sales** | **1,826** | **2,224** | **2,450** | **2,737** | **3,121** |
| Raw Material Consumed | 770 | 997 | 1,362 | 1,712 | 1,845 |
| Purchase of Traded Goods | 53 | 172 | 149 | 165 | 186 |
| Changes in Inventory | (6) | (115) | (391) | (736) | (786) |
| Employee Cost | 148 | 219 | 310 | 346 | 355 |
| Other expenses | 341 | 385 | 489 | 546 | 561 |
| Total Expenditure | 1,307 | 1,657 | 1,919 | 2,034 | 2,162 |
| **Operating profit** | **519** | **567** | **531** | **704** | **960** |
| *Operating profit margin (%)* | *28.4* | *25.5* | *21.7* | *25.7* | *30.8* |
| Other Income | 30 | 82 | 35 | 34 | 13 |
| Interest | 78 | 67 | 47 | 55 | 63 |
| Depreciation | 104 | 113 | 133 | 188 | 209 |
| PBT | 366 | 468 | 387 | 495 | 702 |
| Exceptional items | - | - | - | - | - |
| PBT post exc items | 366 | 468 | 387 | 495 | 702 |
| Tax | 95 | 109 | 105 | 138 | 192 |
| *Tax rate (%)* | *26.0* | *23.3* | *27.2* | *27.8* | *27.4* |
| PAT | 271 | 360 | 257 | 330 | 483 |
| **Adj PAT** | **271** | **360** | **257** | **330** | **483** |
| **EPS (Rs)** | **7.8** | **9.2** | **6.6** | **8.5** | **12.4** |

*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 24: Cash flow statement

| Y/E March (Rs mn) | FY22 | FY23 | FY24E | FY25E | FY26E |
|---|---|---|---|---|---|
| Profit before tax | 366 | 468 | 387 | 495 | 702 |
| Add: Depreciation & Impairment | 104 | 113 | 133 | 188 | 209 |
| Cash flow from operations before WC | 575 | 601 | 542 | 711 | 946 |
| Net change in Working capital | (342) | (49) | 219 | (154) | (233) |
| Tax paid | (118) | (95) | (105) | (138) | (192) |
| **Net cash from operations** | **115** | **458** | **657** | **420** | **520** |
| Capital expenditure | (86) | (253) | (298) | (298) | (292) |
| Free Cash Flow | 29 | 204 | 359 | 122 | 229 |
| Others | (685) | 350 | 457 | 445 | 431 |
| **Net cash from investing** | **(771)** | **96** | **159** | **147** | **139** |
| Issue of shares | 1,434 | - | - | - | - |
| Increase in debt | (592) | (236) | 50 | 50 | 50 |
| Dividends paid incl. tax | 2 | (107) | - | - | - |
| Interest paid | (91) | (59) | (47) | (55) | (63) |
| Others | (122) | (2) | - | - | - |
| **Net cash from financing** | **631** | **(405)** | **3** | **(5)** | **(13)** |
| Net Cash | (25) | 149 | 819 | 562 | 647 |
| Opening Cash | 47 | 22 | 171 | 990 | 1,552 |
| **Closing Cash** | **22** | **171** | **990** | **1,552** | **2,199** |

*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 25: Balance sheet

| Y/E March (Rs mn) | FY22 | FY23 | FY24E | FY25E | FY26E |
|---|---|---|---|---|---|
| Equity Capital | 390 | 390 | 390 | 390 | 390 |
| Other Equity | 3,392 | 3,742 | 4,000 | 4,330 | 4,813 |
| Minority interest | 4 | 2 | 2 | 2 | 2 |
| Networth | 3,785 | 4,135 | 4,392 | 4,722 | 5,205 |
| Total Debt | 348 | 195 | 405 | 466 | 616 |
| Deferred tax liability | 211 | 212 | 212 | 212 | 212 |
| Other non current liabilities | 15 | 20 | 15 | 16 | 17 |
| Trade Payables | 153 | 261 | 215 | 213 | 232 |
| Other Current Liabilities | 65 | 383 | 615 | 1,061 | 1,499 |
| **Total liabilities** | **4,577** | **5,206** | **5,854** | **6,690** | **7,781** |
| PPE | 1,349 | 1,452 | 1,583 | 1,693 | 1,776 |
| CWIP | 5 | 45 | 47 | 50 | 58 |
| Investment property | 178 | 170 | 195 | 221 | 321 |
| Intangible assets under development | - | 64 | 79 | 64 | 64 |
| Intangible Assets | 10 | 9 | 9 | 9 | 9 |
| Investments | - | - | - | - | - |
| Deferred Tax Assets | 0.3 | 0.4 | 0.4 | 0.4 | 0.4 |
| Other Non-Current Assets | 61 | 309 | 231 | 231 | 231 |
| Inventories | 666 | 934 | 829 | 838 | 908 |
| Trade receivables | 1,230 | 1,503 | 1,343 | 1,485 | 1,668 |
| Cash & Near-Cash Items | 22 | 171 | 990 | 1,552 | 2,199 |
| Other Current Assets | 1,056 | 547 | 547 | 547 | 547 |
| **Total Assets** | **4,577** | **5,206** | **5,854** | **6,690** | **7,781** |

*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 26: Key ratios

| Y/E March | FY22 | FY23 | FY24E | FY25E | FY26E |
|---|---|---|---|---|---|
| **Growth (%)** | | | | | |
| Sales | 27.4 | 21.8 | 10.2 | 11.7 | 14.0 |
| Operating Profits | 19.5 | 9.4 | -6.4 | 32.5 | 36.4 |
| Net Profits | 71.1 | 32.6 | -28.4 | 28.3 | 46.1 |
| **Leverage (x)** | | | | | |
| Net Debt: Equity | (0.1) | (0.1) | (0.2) | (0.3) | (0.4) |
| Interest Cover(x) | 5.3 | 6.8 | 8.5 | 9.4 | 12.0 |
| Total Debt/EBITDA | 0.6 | 0.3 | 0.7 | 0.6 | 0.6 |
| **Profitability (%)** | | | | | |
| OPM | 28.4 | 25.5 | 21.7 | 25.7 | 30.8 |
| NPM | 14.9 | 16.2 | 10.5 | 12.1 | 15.5 |
| ROE | 9.3 | 9.1 | 6.0 | 7.2 | 9.7 |
| ROCE | 12.6 | 10.8 | 8.8 | 10.8 | 14.4 |
| **Turnover ratios (x)** | | | | | |
| GFAT | 0.91 | 1.04 | 1.03 | 1.02 | 1.05 |
| Debtors Turnover(x) | 0.7 | 0.7 | 0.5 | 0.5 | 0.5 |
| WC days | 465 | 430 | 400 | 398 | 393 |
| **Valuation (x)** | | | | | |
| P/E | 90.6 | 76.6 | 107.0 | 83.4 | 57.1 |
| P/B | 6.5 | 6.7 | 6.3 | 5.8 | 5.3 |
| EV/EBIDTA | 46.5 | 48.1 | 50.2 | 37.2 | 26.8 |

*Source: Company, Nirmal Bang Institutional Equities Research*

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# BEML Ltd.

Defence | Initiating Coverage

**ACCUMULATE**

**CMP: Rs3,306 | Target Price (TP): Rs3,333 | Upside: 1%**

**April 5, 2024**

## Metro + Mining Equip. + Defence = All triggers in place...

### Investment Rationale:

- BEML Ltd., a PSU, makes rail coaches, replacement parts, and mining equipment. Its main business verticals are mining, construction, defence, rail, and metro. Besides offering services in three verticals, its foreign business branch exports equipment and parts. It exports mainly to the Middle East, Africa, and Southeast Asia. The defence division makes bridge layer field artillery tractors, medium and heavy recovery Tatra vehicles for all terrain operations. Additionally, its technological branch offers end-to-end technological solutions in aviation defence and rail/metro.
- **Operating metrics to improve:** BEML anticipates substantial revenue growth (**implied CAGR of ~14% during FY24E-26E**) and order intake due to increased prospects in Vande Bharat, metros, and defence vehicles. Meanwhile, personnel cost efficiency is being supported by a progressive decline in manpower Y-o-Y owing to retirements, with the company only adding more when needed. Improved product mix and labour cost efficiency will boost margin expansion.
- **View & Valuation:** The order book stood at Rs85.7bn as of FY23 with a book-to-bill ratio of 2.2x. Strong execution capability of BEML to improve sales growth to 14% CAGR over the next two years. We anticipate a revenue/EBITDA/PAT CAGR of 14.4%/8.6%/13.4% in FY24E-26E. BEML demonstrates strong growth potential and appears well-positioned for future opportunities in the industry, However, we like to maintain a cautious stance due to slight delay in project execution and share price run-up in recent 1-2 quarters and thus assign a multiple at 29x +1 SD lower than average historical multiple. We recommend ACCUMULATE rating and target of Rs 3,333, valuing at 29x March'26 EPS.

**Well positioned to capture the growth opportunities:** BEML can capitalize on considerable growth possibilities from the recent upsurge in mining operations and capex-driven mining and construction equipment demand. The government of India's Rs 13 tn rail and Rs 3 tn metro rail investment will boost this industry. The "Make In India" and "Aatmanirbhar Bharat" programs provide possibilities across all the firm's business sectors. Positive indigenization list banned import of 101 + 108 goods will boost domestic defence players. Strong defence and railway capex bode favorably for Indian manufacturing. To become self-sufficient and double domestic procurement to Rs. 1,400 bn by FY25E, the Draft Defence Production & Export Promotion Policy (DPEPP) has set a revenue target of Rs 1,750 bn (US$ 21.3 bn) by 2025.

**View & Valuation:** We expect revenue/EBITDA/PAT CAGR of 14.4%/8.6%/13.4% in FY24E-26E.We value BEML on 29x FY26E earnings and recommend 'ACCUMULATE' with a target price of Rs3,333 showing a 1% upside.

| | |
|---|---|
| Est Change | - |
| TP Change | - |
| Rating Change | - |

**Company Data and Valuation Summary**

| | |
|---|---|
| Reuters | BEML.BO |
| Bloomberg | BEML IN Equity |
| Mkt Cap (Rsbn/US$bn) | 137.7 / 1.7 |
| 52 Wk H / L (Rs) | 4,144 / 1,184 |
| ADTV-3M (mn) (Rs/US$) | 1,809.4 / 21.8 |
| Stock performance (%) 1M/6M/1yr | 2.8 / 42.7 / 162.0 |
| Nifty 50 performance (%) 1M/6M/1yr | 2.4 / 3.7 / 27.9 |

| Shareholding | 1QFY24 | 2QFY24 | 3QFY24 |
|---|---|---|---|
| Promoters | 54.0 | 54.0 | 54.0 |
| DIIs | 19.5 | 19.0 | 19.0 |
| FIIs | 6.1 | 6.8 | 9.1 |
| Others | 20.4 | 20.2 | 17.9 |
| Pro pledge | 0.0 | 0.0 | 0.0 |

| Top Shareholders | % of Company |
|---|---|
| HDFC Asset Management Co Ltd | 8.68 |
| Kotak Mahindra Asset Management Co | 4.8 |
| Quant Money Managers Ltd | 0.89 |
| Aditya Birla Sun Life Asset Management | 0.88 |
| BlackRock Inc | 0.75 |

**Financial and Valuation Summary**

| Particulars (Rs mn) | FY23 | FY24E | FY25E | FY26E |
|---|---|---|---|---|
| Net Sales | 38,989 | 46,781 | 57,127 | 61,191 |
| *Growth YoY (%)* | *(10.1)* | *20.0* | *22.1* | *7.1* |
| EBITDA | 3,644 | 5,853 | 7,869 | 6,905 |
| *EBITDA margin (%)* | *9.3* | *12.5* | *13.8* | *11.3* |
| Adj. PAT | 1,579 | 3,719 | 5,140 | 4,786 |
| *Growth YoY (%)* | *22.6* | *135.5* | *38.2* | *(6.9)* |
| EPS (Rs) | 37.9 | 89.0 | 123.1 | 114.6 |
| *RoE (%)* | *6.6* | *14.5* | *17.8* | *14.7* |
| EV/EBITDA | 38.7 | 24.1 | 17.7 | 19.4 |
| P/E (x) | 87.2 | 37.1 | 26.9 | 28.9 |

**Key Links-** Annual Report FY23 | 3QFY24 Result

*Please refer to the disclaimer towards the end of the document.*

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**Research Analyst**
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+91-7738892292

## Company background

BEML Limited (formerly Bharat Earth Movers Limited) was established in May 1964 as a Public Sector Undertaking for the manufacture of Rail Coaches & Spare Parts and Mining Equipment at its Bangalore Complex. It is a Miniratna Category-I PSU and operates under three major business verticals —Mining & Construction, Defence and Rail & Metro. These verticals are serviced by nine manufacturing units located at Bangalore, Kolar, Mysore, Palakkad and Chikmagalur (Vignyan Industries). Its international business division exports equipment and spares, apart from providing services in three core verticals. Its major export markets are the countries in the Middle East, Africa and South East Asia.

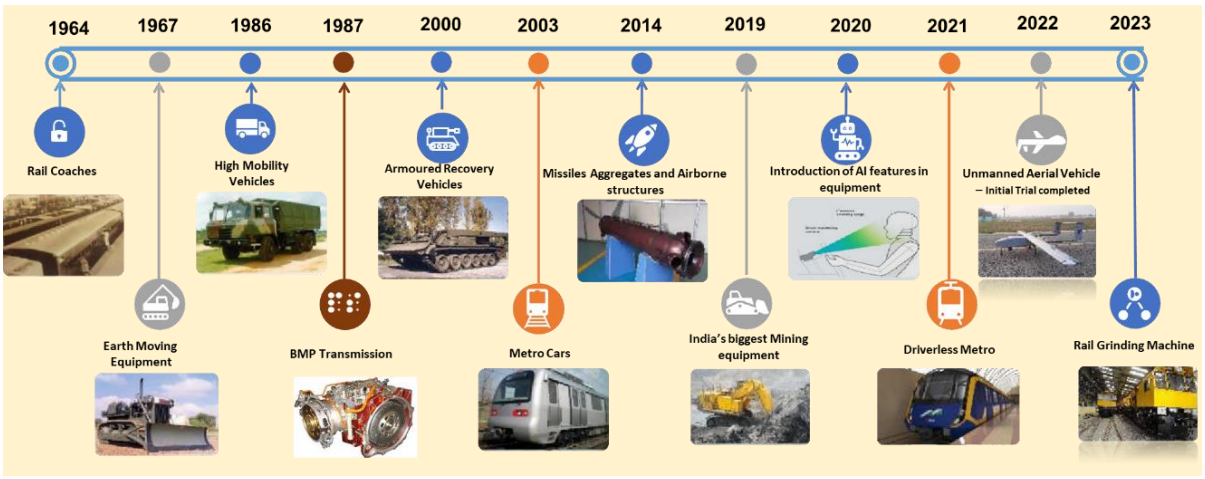
BEML's Mining & Construction division offers a range of mining machinery for both opencast and underground mines (hydraulic excavators, bulldozers, wheel loaders and dozers, dump trucks, motor graders, pipe layers, tyre handlers, water sprinklers, and backhoe loaders; and hydraulics, powerline systems, and engines).

Its Rail & Metro business vertical supplies passenger coaches, metro cars, track laying equipment, rail bus, spoil disposal unit, treasury van, mil rail coaches, wagons, and utility track vehicles, integral rail coaches, overhead electric inspection cars and postal vans to the Indian Railways.

Its Defence division manufactures variants of Tatra vehicle for all terrain operations, including medium & heavy recovery vehicle, pontoon mainstream bridge systems, crash fire tenders, mobile mast vehicle, among others, as well as supplies engineering mine ploughs, tank transportation trailers, weapon loading equipment, and armoured recovery vehicles. In addition, its Technology division provides end-to-end technology solutions in aero defence and rail/metro related areas.

The Trading Division deals with non-company products and commodities such as iron ore, coal and steel billets for both captive (JV& subsidiaries) and in-house requirements.

**Exhibit 1: Key milestones of the company:**




*Source: Company, Nirmal Bang Institutional Equities Research*

**Exhibit 2: Accomplishments in FY23:**

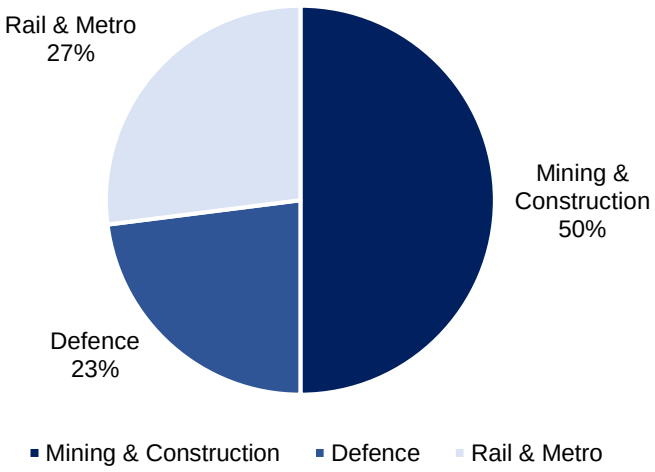
| | |
|---|---|
| 8850 BEML High Mobility Vehicles<br>350 Armoured Recovery Vehicles<br>3200 Trailers / Military Wagons<br>6 sets (330 Nos.) Pontoon Bridge System | Defence |
| 33100 Mining & Construction Equipment<br>28100 Engines (76HP – 700HP) | Mining & Construction |
| 18000 Rail Coaches and 970 EMUs<br>1850 Metro Cars | Rail & Metro |
| Rs 63,000 Mns to 71 Countries | Exports |

*Source: Company, Nirmal Bang Institutional Equities Research*

## Investment Arguments:

The 5-year CAGR for the BEML topline from FY18 to FY23 is 3%. We estimate that the topline for BEML from FY24-26 will grow at 14% due to its robust order book and a promising pipeline in the Railways and Defence segments. As of December 2023, the company's order book was Rs.128bn. The company has guided an increase in its order book to Rs 184 bn in FY26. Furthermore, BEML anticipates securing orders exceeding Rs100bn in the next 2-3 years, particularly in the Railways & Metro (R&M) segment. Recent orders include 318 units for Bangalore Metro (approximately Rs31bn) and 10 train sets for Vande Bharat from ICF (about Rs6.8bn). In the defence sector, the company has a pipeline of new HMV orders worth Rs4.4bn. It plans to expand further by overhauling armored recovery vehicles, potentially increasing orders to Rs10-25bn annually. With revenue in the Defence & Aerospace segment expected to reach Rs15bn by FY24 and Rs50bn annually by FY27, BEML demonstrates a strong growth trajectory. The Mining & Construction segment, BEML's most significant, is poised for 5-6% growth over the next 3-4 years and 3-4% growth thereafter.

**Exhibit 3: Revenue breakdown for FY23**




*Source: Company, Nirmal Bang Institutional Equities Research*

**Exhibit 4: Defence Products share in revenue mix to increase in the ensuing years**

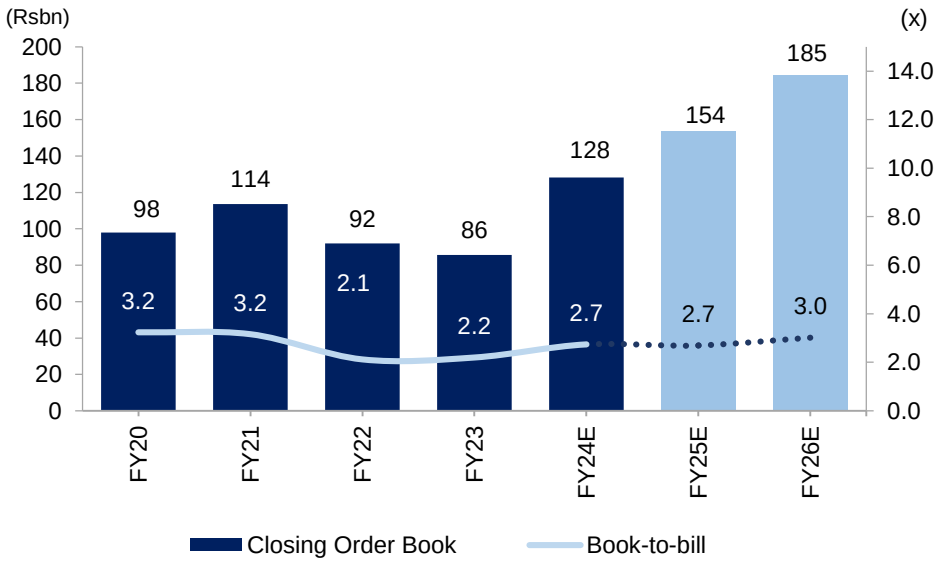
| Revenue Breakup (Rs mn) | FY21 | FY22 | FY23 | FY24E | FY25E | FY26E |
|---|---|---|---|---|---|---|
| **Revenue from operations** | | | | | | |
| **Sale of Products** | **34,030** | **39,872** | **37,033** | **43,974** | **53,700** | **57,519** |
| (%) of Total Revenue | 95% | 92% | 95% | 94% | 94% | 94% |
| **Sale of Services** | **1,536** | **1,557** | **1,359** | **1,871** | **2,285** | **2,448** |
| (%) of Total Revenue | 4% | 4% | 3% | 4% | 4% | 4% |
| **Other Operating Income** | **402** | **1,945** | **598** | **936** | **1,143** | **1,224** |
| (%) of Total Revenue | 1% | 4% | 2% | 2% | 2% | 2% |
| **Total** | **35,968** | **43,375** | **38,989** | **46,781** | **57,127** | **61,191** |

| Product wise Segment (Rs mn) | FY21 | FY22 | FY23 | FY24E | FY25E | FY26E |
|---|---|---|---|---|---|---|
| Earth Moving Equipments | 9,792 | 10,963 | 11,696 | 8,795 | 8,592 | 6,327 |
| Contribution | 28% | 26% | 30% | 20% | 16% | 11% |
| Rail & Metro Products | 12,889 | 13,994 | 9,655 | 12,313 | 16,110 | 18,406 |
| Contribution | 36% | 34% | 25% | 28% | 30% | 32% |
| Defence Products | 3,407 | 6,620 | 6,217 | 8,795 | 11,814 | 13,805 |
| Contribution | 10% | 16% | 16% | 20% | 22% | 24% |
| Spare Parts | 7,624 | 7,844 | 9,070 | 10,554 | 12,888 | 14,380 |
| Contribution | 21% | 19% | 24% | 24% | 24% | 25% |
| Wind Energy | 180 | 163 | 168 | 440 | 537 | 575 |
| Contribution | 1% | 0% | 0% | 1% | 1% | 1% |
| Sale of scrap | 139 | 289 | 227 | 440 | 537 | 575 |
| Contribution | 0% | 1% | 1% | 1% | 1% | 1% |
| **Total** | **34,030** | **39,872** | **37,033** | **43,974** | **53,700** | **57,519** |

*Source: Company, Nirmal Bang Institutional Equities Research*

BEML anticipates that its incremental revenue from FY24-30 will come from the defence industry, as well as rail and metro projects. BEML expects that the defence segment will grow at an average of 30-40% until FY30. However, BEML is shifting its focus from mining to rail and defence sectors.

**Exhibit 5: BEML's Robust Order Book Propels Growth in Defence and Aerospace Domains**




*Source: Company, Nirmal Bang Institutional Equities Research*

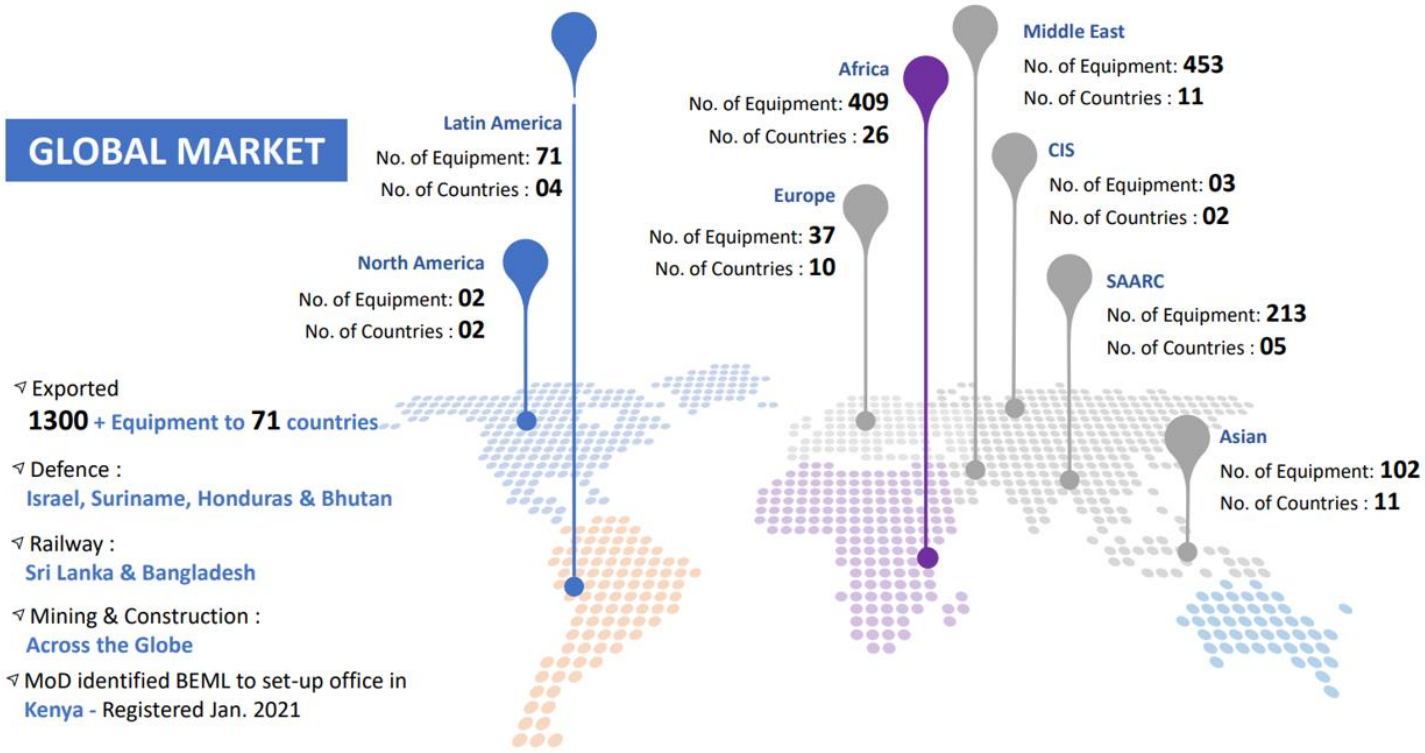
- As of FY24, the order book totaled Rs 128 bn, executable over 3-5 years. The aerospace and defence order book totals over Rs 50 bn. BEML expected 30%-40% annual growth in the defence business and even higher growth in the defence order book from FY24-30.
- The first segment focuses on **High mobility vehicles** (HMVs), which have been supplied to the Indian Army since 1986 and support various critical platforms such as missile systems, building systems, command systems, and radars. Heavy government investment in the defence sector is driving substantial order bookings, which is expected to continue due to the creation of new regiments and high demand for HMVs.
- The second segment covers **Armored Recovery Vehicles** (ARVs), with over 350 ARVs supplied, including the 'Arjun' Armored Recovery Vehicles. As the Government of India introduces two regiments, the demand for recovery vehicles is set to grow, presenting an expansion opportunity in this sector.

- The 3rd focus area in defence is aggregates, encompassing services, features, and transmissions. Significant developments are underway in BMP transmission, driving attention to this crucial component.
- The 4th area is overhauling and Annual Maintenance Contracts (AMCs). With 9,000 pieces of equipment in operation, including 4,000 undergoing overhauls (350 ARVs too are being overhauled), there is a substantial opportunity for AMCs. The goal is to secure AMCs for 350 ARVs, allowing for consistent overhauls over the next 6 to 7 years.

Another concentrated effort is directed toward new products, particularly import substitutes. The government's emphasis on local procurement has led to developing various new parts, previously imported from Russia, such as Minefield and Mining Equipment. Participation in these areas is pivotal for the company's growth.

The aerospace segment has a targeted plan to increase revenue from Rs 0.2 bn to INR 5 bn by FY30 with a CAGR of 71%. BEML is expanding to the Naval sector for its defence products.

**Exhibit 6: Expanding Global Footprint with Robust Defence Exports**




*Source Company Presentation*

**Exhibit 7: Export trends for BEML**

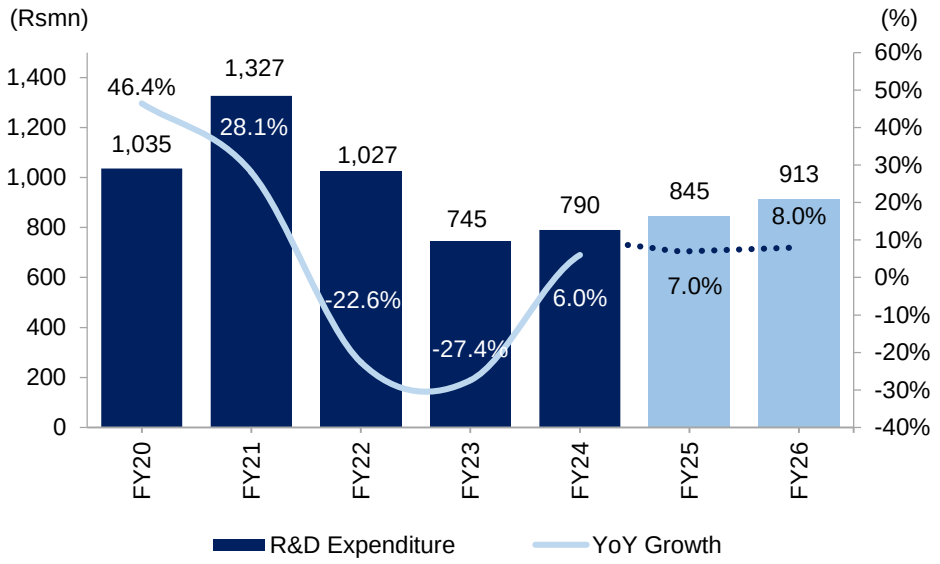
| Geography wise segment (Rs mn) | FY20 | FY21 | FY22 | FY23 | FY24 | FY25E | FY26E |
|---|---|---|---|---|---|---|---|
| **Domestic** | **29,634** | **31,338** | **37,725** | **30,689** | **36,489** | **43,988** | **46,505** |
| (%) of Total Revenue | 98% | 87% | 87% | 79% | 78% | 77% | 76% |
| **Export** | **620** | **4,630** | **5,650** | **8,300** | **10,292** | **13,139** | **14,686** |
| (%) of Total Revenue | 2% | 13% | 13% | 21% | 22% | 23% | 24% |
| **Total** | **30,254** | **35,968** | **43,375** | **38,989** | **46,781** | **57,127** | **61,191** |

*Source: Company, Nirmal Bang Institutional Equities Research*

- BEML's exports have witnessed a significant surge, with their contribution rising from only 2% of the total revenue in FY20 to 21% by the end of FY23. For FY24, exports are anticipated to play a pivotal role in the company's growth. From FY24-26, we expect that the export contribution will be 24% due to continuous expansion of its global presence. BEML has exported to 71 countries in the past. Exports have become a strategic avenue for value creation and market diversification.
- **Mining and construction—**The company has secured orders from Russia and Indonesia for Mining and construction equipment. Supplies are already underway and slated for completion during FY24.
- **Defence Export—**On the defence export front, the supply of high-mobility vehicles to Armenia is in progress and is expected to be completed by the end of the current financial year. Additionally, the supply of High-Mobility Vehicles for the BrahMos missile will commence in FY24.

  The company is actively exploring prospects for defence equipment from SAARC and African countries, with expectations of fruition in the current year. The company has received an order from M/s BrahMos to supply 9 Prime movers for export to the Philippines as part of the BrahMos Missile system. BEML is an integral part of this export deal, and efforts are underway to meet the delivery requirements of M/s BrahMos. BEML has also registered with Defence Portals of Foreign Countries like the Philippines, Korea, and Singapore. With this strategic approach, BEML is actively seeking opportunities to export High Mobility Vehicles and Aircraft towing tractors in the field of defence.

**Exhibit 8: BEML's R&D in Defence and Aerospace**




*Source: Company, Nirmal Bang Institutional Equities Research*

- The R&D expenditure, at 1.9% of revenue and 26.7% of PBT, underscores BEML's ongoing investment in research and development for continued growth.
- BEML's commitment to intellectual capital: BEML filed 105 Intellectual Property Rights, securing 11 patents—the highest since inception. Over 75% of the business came from in-house R&D-developed products, reflecting the company's technical prowess. In the face of intense competition, BEML maintained a significant market share, particularly in Dump Trucks, Dozers, and Metro cars. We anticipate that BEML R&D will grow ~6-8% until FY26.
- Meanwhile, in defence-focused R&D, BEML has undertaken the design and development of High-Mobility 4x4 Cross-Country Vehicles, including the BEML HMV ET 8x8 (General Service) with a 70T Trailer, the Armoured Protected Mobility Vehicle 4x4, indigenous manufacture of Armored cabins, and the Upgrade of the ARV WZT-3 Engine.

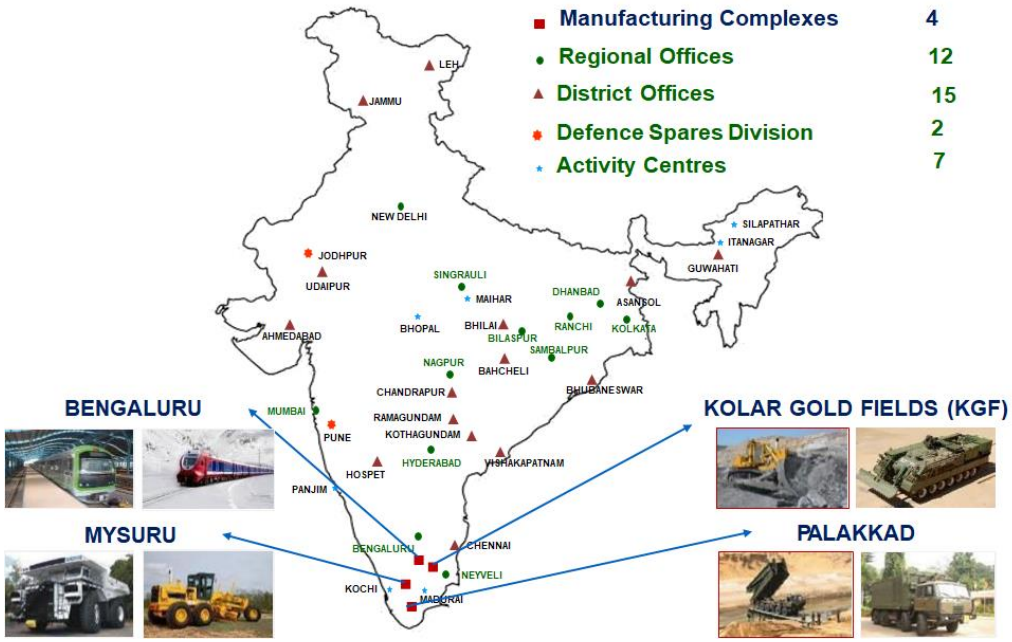
- These focused R&D initiatives demonstrate BEML's commitment to staying technologically ahead, especially in the defence sector, showcasing its prowess in delivering cutting-edge solutions.

**Exhibit 9: Range of Products**

| DEFENCE & AEROSPACE | MINING & CONSTRUCTION | RAIL & METRO |
|---|---|---|
| ❖ High Mobility Vehicles (HMV)<br>o Bridge Systems<br>o Missile Launchers<br>o Radar Systems<br>❖ Combat Mobility Vehicles<br>o Armoured Recovery Vehicle<br>o Armoured Repair & Recovery vehicle<br>o Mine Ploughs<br>o Aggregates<br>o BMP Transmission<br>o Ejector & Air Cleaner<br>o Hull for T-72<br>❖ Aircraft Towing tractors<br>❖ Aircraft Weapon Loader<br>❖ Ground Support & Handling Equp.<br>❖ Tank Transportation Trailers<br>❖ Milrail Wagons<br>❖ Rocket Motor Casings for Missile<br>❖ Airborne Structure & Assemblies<br>❖ Construction eqpt to E-in-C, DGBR | ❖ Bull Dozers (90 – 860 FHP)<br>❖ Dumpers (35 Ton–205 Ton)<br>❖ Excavators (0.3 - 12 Cu.m)<br>❖ Shovels / Walking Dragline<br>❖ Water Sprinklers (28000 – 70000 Litres)<br>❖ Motor Graders (137, 145 & 285 HP)<br>❖ Front End Loaders<br>❖ Backhoe Loader<br>❖ Pipe Layers / Wheeled Dozers / Tyre Handlers / Under Ground Mining Equipment | ❖ Metro Cars - Delhi, Bengaluru, Jaipur, Kolkata, Mumbai (Driverless)<br>❖ Electrical Multiple Units<br>❖ Maintenance Vehicles – Diesel Electric Tower Car, Rail Grinding Machine, Catenary Maintenance Vehicle<br>❖ Passenger Coaches<br>❖ Treasury Vans |

*Source: Company, Nirmal Bang Institutional Equities Research*

**Exhibit 10: Manufacturing Units:**




*Source: Company, Nirmal Bang Institutional Equities Research*

BEML operates out of four manufacturing complexes in KGF (Kolar Gold Field), Mysore, Bengaluru, and Palakkad. It has 12 regional offices nationwide, 15 district offices, 2 defence spares divisions, and 7 activity centers.

# A reputable and experienced Management Team

## Mr. Shantanu Roy, Chairman & Managing Director

Mr. Shantanu Roy previously worked as a Director, primarily in the Mining and Construction industries. He graduated from NIT Raipur with a degree in electrical engineering and an MBA in financial management. He has almost three decades of expertise in the capital goods sectors, working on significant power, defence, mining and construction, transportation, transmission and renewable energy projects. Under his guidance as Director (Mining and Construction Business), the vertical's performance increased by a factor of a bn.

## Mr. Ajit Kumar Srivastav, Director (Defence Business)

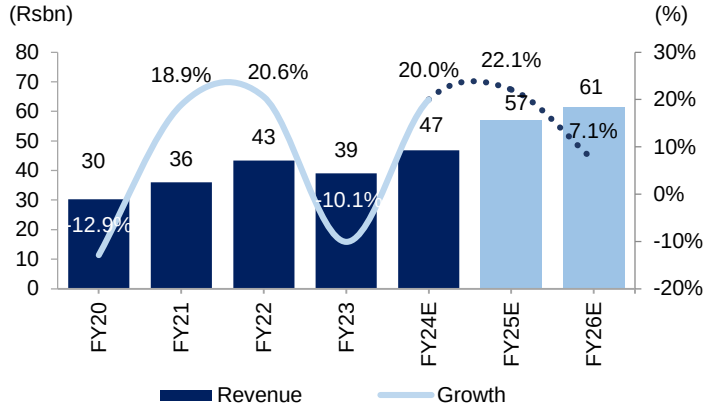
He received a mechanical engineering degree from IIT Kharagpur in 1987. Prior to becoming Director, he served as Chief General Manager, specializing in defence marketing. His contributions helped to domesticate vital items and substitute them for imports gradually. In addition, he built a vendor ecosystem encompassing micro, small, and medium-sized enterprises (MSMEs) and a regional quality assurance wing that spanned Northern India.

## Mr. Anil Jerath, Director (Finance) & Member of the Board of BEML Limited

Mr. Jerath is a Cost and Management Accountant with India's Institute of Cost Accountants (ICAI). Prior to joining BEML, he worked as an Additional Director at the Chhattisgarh State Electricity Board (CSEB) in Raipur and the Bharat Aluminium Company Limited (BALCO) in Korba. His 33 years of experience in the public, private, and governmental sectors has provided him with a comprehensive understanding of accounting and financial management, auditing and finalizing accounts, tax planning and management, conceptualizing and implementing financial procedures such as working capital management and internal financial controls, and assessing the financial viability of new ventures and projects and estimating the amount of project finance or funds.

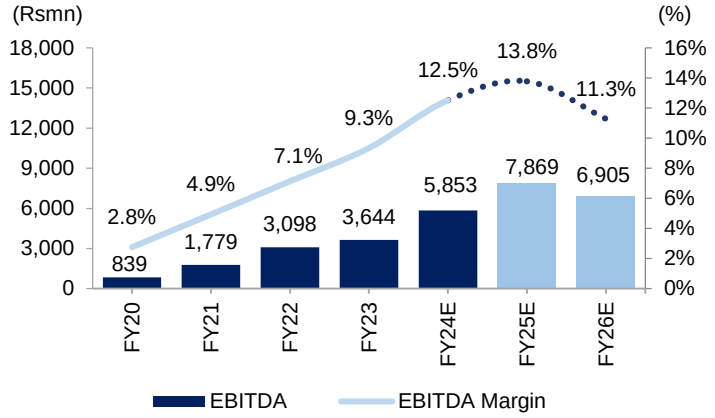
## BEML Key Performance Indicators

### Exhibit 11: Revenue CAGR to grow 14%+ from FY24-26E



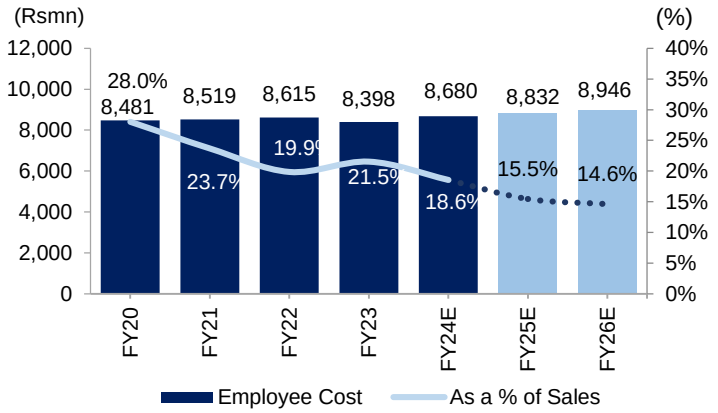

*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 12: EBITDA margin to pick up post FY26E



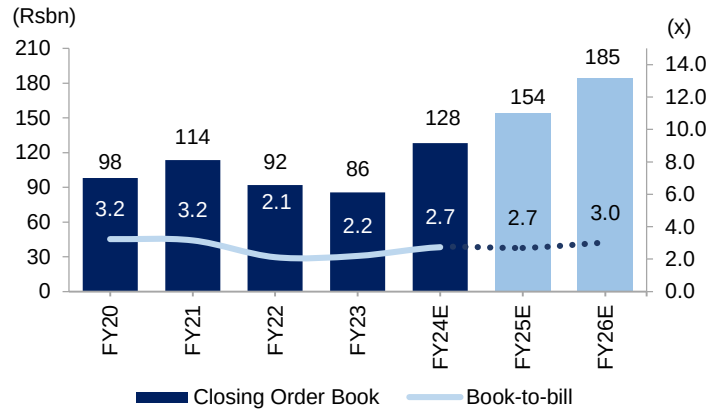

*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 13: Employee cost expected to decline further



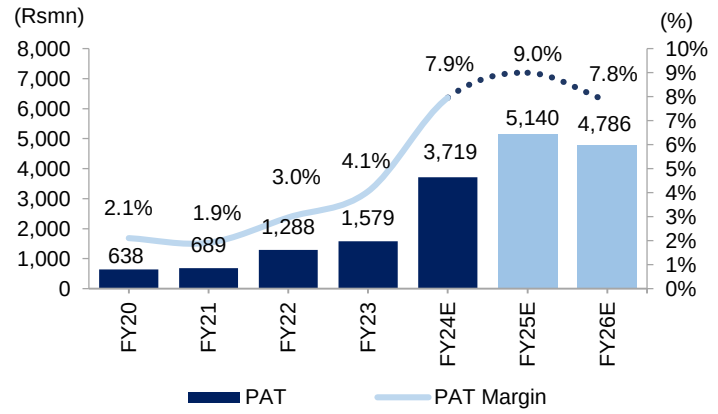

*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 14: Order book will reach 185bn in FY26E



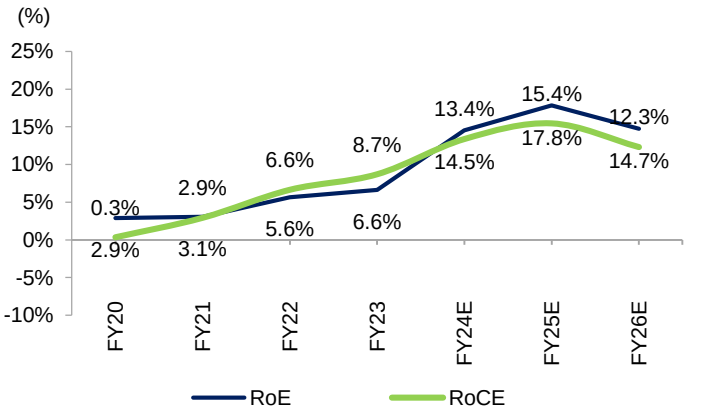

*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 15: PAT Margins to recover from FY26




*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 16: Return ratios to improve after FY26E




*Source: Company, Nirmal Bang Institutional Equities Research*

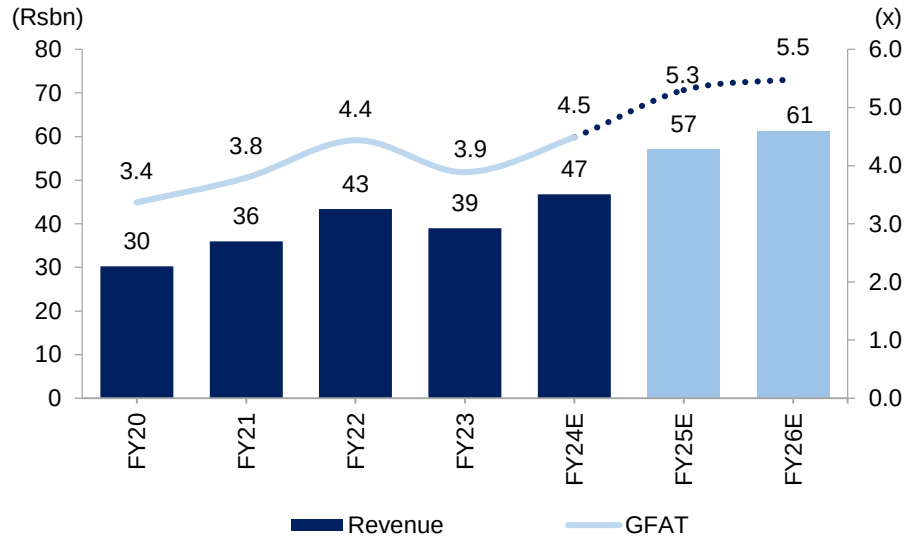
**Exhibit 17: Cash Conversion Cycle Trends**

| Cash Conversion Cycle | FY20 | FY21 | FY22 | FY23 | FY24E | FY25E | FY26E |
|---|---|---|---|---|---|---|---|
| Debtor Days | 188 | 172 | 158 | 145 | 140 | 138 | 136 |
| Inventory Days | 427 | 357 | 305 | 353 | 320 | 300 | 280 |
| Payable Days | 164 | 126 | 98 | 106 | 109 | 110 | 112 |
| **CCC** | **451** | **403** | **365** | **392** | **351** | **328** | **304** |

*Source: Company, Nirmal Bang Institutional Equities Research*

The Cash Conversion Cycle has consistently improved from 451 days in FY20 to 392 days between FY20 and FY23. We expect the trend to continue in the forecast years.

**Exhibit 18: Higher revenue to offset expansion plans**




*Source: Company, Nirmal Bang Institutional Equities Research*

The business plans to invest Rs 3.5 bn in machinery upgrades, civil works, paint shop automation, and other improvements at its KGF complex. It plans to maintain its capex in the future. Increased production and economies of scale will improve revenues and profitability.

**View and Valuation:**

BEML is positioned for substantial growth, supported by a robust order pipeline and favorable industry trends in the areas under operation. The company serves key clients with a history of repeat orders, including PSUs like Coal India Ltd., the Ministry of Defence, and the railway sector. BEML is also optimistic about its exports business, targeting Rs10bn in physical exports in FY24, compared to Rs8bn in FY23, contingent on the performance of the Mining & Construction segment. We anticipate a revenue/EBITDA/PAT CAGR of 14.4%/8.6%/13.4% in FY24E-26E. BEML demonstrates strong growth potential and appears well-positioned for future opportunities in the industry. However, we would like to maintain a cautious stance due to the slight delay in project execution and the share price run-up in the recent 1-2 quarters, thus assigning a multiple at 29x +1 SD lower than average historical multiple. We recommend ACCUMULATE rating and target of Rs 3,333, valuing at 29x March'26 EPS.

**Exhibit 19: Valuation summary**

| Particulars | (Rs mn) |
|---|---|
| March'26E EPS | 115 |
| Target multiple (x) | 29.0 |
| **Target price (Rs)** | **3,333** |
| CMP (Rs ) | 3,306 |
| **Upside / (downside) %** | **1%** |

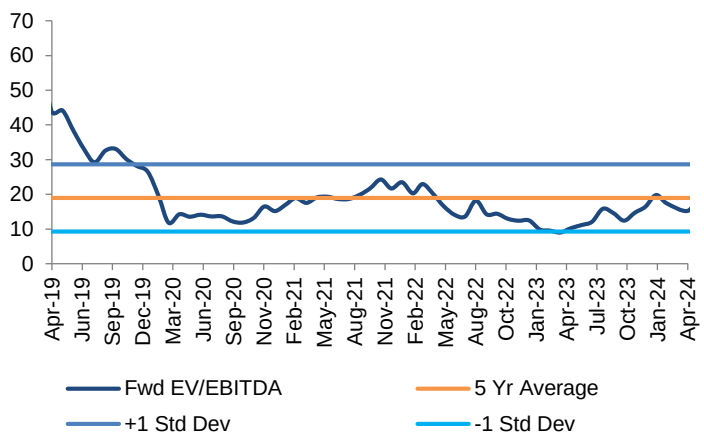
*Source: Company, Nirmal Bang Institutional Equities Research*

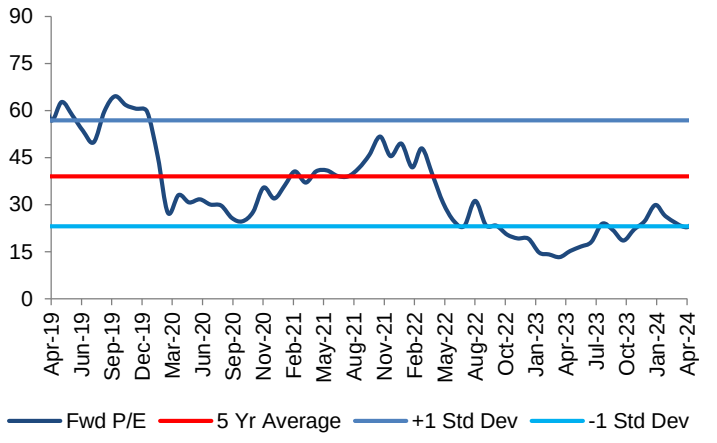
## Challenges, Risks and Concerns:

The major challenges to the Company are:

- **Geopolitical concerns:** BEML has a significant risk from supply chain disruptions for raw materials and components. Recent occurrences, such as the Red Sea, have caused supply chain challenges for BEML, affecting the company's ability to book revenue due to delays in goods.
- **Entry of private players:** The government's decision to open the defence sector to private companies may limit BEML's market share.
- **Higher employee costs:** BEML faces substantial staff costs, accounting for around 20% of revenue, much more than other industry players.
- **Increase in competitive intensity:** Global players' price-cutting approach for mining and metro projects has increased the competition for BEML, particularly in the metro market.
- **Policy change:** Any change in government policy or procurement policy or capex plan for railways/defence/mining will largely impact company's business. Unlike some other defence PSUs, BEML is not assured of business from Government of India and that is a threat for the company.
- **Technological factors:** The global technology leaders are deciding to operate directly rather than transferring technology to Indian players, which could hurt the company and increase competition/cost.

**Exhibit 20: Rolling valuation charts**




*Source: Company, Nirmal Bang Institutional Equities Research*

## Financial Statements

**Exhibit 21: Income statement**

| Y/E March (Rs mn) | FY22 | FY23 | FY24E | FY25E | FY26E |
|---|---|---|---|---|---|
| **Net Sales** | **43,375** | **38,989** | **46,781** | **57,127** | **61,191** |
| Raw Material Consumed | 22,687 | 20,989 | 24,436 | 32,472 | 37,742 |
| Purchase of Traded Goods | - | - | - | - | - |
| Changes in Inventory | 1,507 | 377 | 696 | 707 | 713 |
| Employee Cost | 8,615 | 8,398 | 8,680 | 8,832 | 8,946 |
| Other expenses | 7,468 | 5,582 | 7,117 | 7,247 | 6,885 |
| Total Expenditure | 40,277 | 35,345 | 40,928 | 49,258 | 54,285 |
| **Operating profit** | **3,098** | **3,644** | **5,853** | **7,869** | **6,905** |
| *Operating profit margin (%)* | *7.1* | *9.3* | *12.5* | *13.8* | *11.3* |
| Other Income | 57 | 236 | 550 | 655 | 657 |
| Interest | 493 | 462 | 396 | 472 | 476 |
| Depreciation | 665 | 641 | 1,103 | 1,289 | 789 |
| PBT | 1,997 | 2,777 | 4,905 | 6,764 | 6,297 |
| Exceptional items | - | - | - | - | - |
| PBT post exc items | 1,997 | 2,777 | 4,905 | 6,764 | 6,297 |
| Tax | 711 | 1,198 | 1,186 | 1,623 | 1,511 |
| *Tax rate (%)* | *35.6* | *43.1* | *24.2* | *24.0* | *24.0* |
| PAT | 1,288 | 1,579 | 3,719 | 5,140 | 4,786 |
| **Adj PAT** | **1,288** | **1,579** | **3,719** | **5,140** | **4,786** |
| **EPS (Rs)** | **30.9** | **37.9** | **89.0** | **123.1** | **114.6** |

Source: Company, Nirmal Bang Institutional Equities Research

**Exhibit 22: Cash flow**

| Y/E March (Rs mn) | FY22 | FY23 | FY24E | FY25E | FY26E |
|---|---|---|---|---|---|
| Profit before tax | 1,997 | 2,777 | 4,905 | 6,764 | 6,297 |
| Add: Depreciation & Impairment | 665 | 641 | 1,103 | 1,289 | 789 |
| Cash flow from operations before WC | 2,547 | 3,620 | 6,403 | 8,524 | 7,562 |
| Net change in Working capital | (1,686) | 2,919 | (6,273) | (6,399) | (1,630) |
| Tax paid | (352) | (905) | (1,186) | (1,623) | (1,511) |
| **Net cash from operations** | **509** | **5,634** | **(1,056)** | **502** | **4,421** |
| Capital expenditure | (386) | (426) | (346) | (370) | (375) |
| Free Cash Flow | 123 | 5208 | -1402 | 132 | 4046 |
| Others | 5,570 | 3,444 | 3,375 | 3,274 | 3,110 |
| **Net cash from investing** | **5,184** | **3,018** | **3,029** | **2,903** | **2,735** |
| Issue of shares | (1,015) | (1,000) | - | - | - |
| Increase in debt | (527) | (234) | - | - | - |
| Dividends paid incl. tax | (351) | (321) | (981) | (1,355) | (1,262) |
| Interest paid | - | - | (396) | (472) | (476) |
| Others | 1,793 | (1,793) | - | - | - |
| **Net cash from financing** | **(99)** | **(3,348)** | **(1,376)** | **(1,827)** | **(1,738)** |
| Net Cash | 5,594 | 5,303 | 597 | 1,579 | 5,418 |
| Opening Cash | (5,374) | (5,212) | 91 | 688 | 2,267 |
| **Closing Cash** | **220** | **91** | **688** | **2,267** | **7,684** |

Source: Company, Nirmal Bang Institutional Equities Research

**Exhibit 23: Balance sheet**

| Y/E March (Rs mn) | FY22 | FY23 | FY24E | FY25E | FY26E |
|---|---|---|---|---|---|
| Equity Capital | 418 | 418 | 418 | 418 | 418 |
| Other Equity | 23,149 | 23,797 | 26,535 | 30,320 | 33,844 |
| Minority interest | (4) | (4) | (4) | (4) | (4) |
| Networth | 23,563 | 24,211 | 26,949 | 30,734 | 34,258 |
| Total Debt | 8,573 | 3,979 | 3,979 | 3,979 | 3,979 |
| Deferred tax liability | - | - | - | - | - |
| Other non current liabilities | 13,154 | 7,915 | 7,915 | 7,915 | 7,915 |
| Trade Payables | 5,612 | 6,783 | 7,505 | 9,999 | 11,800 |
| Other Current Liabilities | 6,189 | 7,210 | 7,101 | 7,106 | 7,111 |
| **Total liabilities** | **57,090** | **50,098** | **53,449** | **59,733** | **65,062** |
| PPE | 5,851 | 5,132 | 4,740 | 4,348 | 3,934 |
| CWIP | 59 | 89 | 93 | 98 | 103 |
| Investment property | 83 | 93 | 93 | 93 | 93 |
| Intangible assets under development | 79 | 138 | 138 | 138 | 138 |
| Intangible Assets | 278 | 255 | 255 | 255 | 255 |
| Investments | - | - | - | - | - |
| Deferred Tax Assets | 1,636 | 1,083 | 1,083 | 1,083 | 1,083 |
| Other Non-Current Assets | 729 | 766 | 766 | 766 | 766 |
| Inventories | 20,728 | 20,614 | 22,033 | 27,270 | 29,500 |
| Trade receivables | 18,614 | 12,367 | 17,943 | 21,599 | 22,800 |
| Cash & Near-Cash Items | 220 | 91 | 688 | 2,267 | 7,684 |
| Other Current Assets | 8,813 | 9,470 | 9,470 | 9,470 | 9,470 |
| **Total Assets** | **57,090** | **50,098** | **53,449** | **59,733** | **65,062** |

Source: Company, Nirmal Bang Institutional Equities Research

**Exhibit 24: Key ratios**

| Y/E March | FY22 | FY23 | FY24E | FY25E | FY26E |
|---|---|---|---|---|---|
| **Growth (%)** | | | | | |
| Sales | 20.6 | (10.1) | 20.0 | 22.1 | 7.1 |
| Operating Profits | 74.1 | 17.6 | 60.6 | 34.4 | (12.2) |
| Net Profits | 86.9 | 22.6 | 135.5 | 38.2 | (6.9) |
| **Leverage (x)** | | | | | |
| Net Debt: Equity | 0.34 | 0.14 | 0.10 | 0.04 | (0.12) |
| Interest Cover(x) | 4.9 | 6.5 | 12.0 | 13.9 | 12.8 |
| Total Debt/EBITDA | 2.68 | 1.05 | 0.65 | 0.48 | 0.55 |
| **Profitability (%)** | | | | | |
| OPM | 7.1 | 9.3 | 12.5 | 13.8 | 11.3 |
| NPM | 3.0 | 4.1 | 7.9 | 9.0 | 7.8 |
| ROE | 5.6 | 6.6 | 14.5 | 17.8 | 14.7 |
| ROCE | 6.6 | 8.7 | 13.4 | 15.4 | 12.3 |
| **Turnover ratios (x)** | | | | | |
| GFAT | 4.4 | 3.9 | 4.5 | 5.3 | 5.5 |
| Debtors Turnover(x) | 0.4 | 0.3 | 0.4 | 0.4 | 0.4 |
| WC days | 365 | 392 | 351 | 328 | 304 |
| **Valuation (x)** | | | | | |
| P/E | 106.9 | 87.2 | 37.1 | 26.9 | 28.9 |
| P/B | 5.8 | 5.7 | 5.1 | 4.5 | 4.0 |
| EV/EBIDTA | 47.0 | 38.7 | 24.1 | 17.7 | 19.4 |

Source: Company, Nirmal Bang Institutional Equities Research

# Data Patterns India Ltd (DPIL)

Defence | Initiating Coverage

**ACCUMULATE**

**CMP: Rs2,693 | Target Price (TP): Rs2,755 | Upside: 2%**

**April 5, 2024**

## Well placed to capture huge opportunity in defence electronics space…

### Key Points

- Data Patterns, founded in 1985, is one of the only vertically integrated defence and aerospace electronics solutions providers, with design skills spanning avionics, missile systems, radars, electronic warfare (EV), satellites, and communications.
- Its strength is inventing sophisticated products with reusable building pieces (military-grade Commercial off-the-shelf software - COTS). It allows the firm to keep development costs low while winning many orders from a single vendor, raising entry hurdles for rivals.
- **Robust order book buildup:** The order book grew by 8%, reaching INR 9.6 bn in 3QFY24, with new orders worth Rs 991 mn (including export orders - Rs390m), taking the total order book to Rs10bn (2x TTM sales). The company expects the strong momentum of new orders to continue, expecting further new orders worth INR 6-7 bn (including negotiated contracts). A well-diversified mix of orders from the MoD, BrahMos, DRDO, ISRO, and HAL drives this.
- **Management guidance:** The company maintains revenue growth of ~30%, gross margin of 60-65%, EBITDA margin of ~40%, and order inflow to the tune of Rs6-7bn. NBIE, on the other hand, considers the order book to be adequately diversified, comprising 37% production orders, 59% development orders, and 4% service orders. The increased proportion of development contracts in the order book is a favorable indicator for the organization, as it may result in robust future production revenue.
- **Valuation & View:** We initiate "ACCUMULATE" on Data Patterns with a positive bias and a target price of Rs 2,755. We assign a multiple at 52x Mar'26E EPS +1 SD lower than the historical trend. The company was listed in December 2021. A higher multiple is assigned based on the following: (1) The armed forces' demand for sophisticated systems creates a substantial opportunity in defence electronics of Rs 1500 bn over the next 4-5 years. (2) Efforts to promote indigenization persist; a significant proportion of defence electronics will be procured locally in the future. 3) Proven internal capabilities for design and development in space, air, land, and marine domains. **Concerns:** Government budget cuts or delays, as well as technological disruption, are significant concerns.

**Adding scale through systems integration; diversifying risk through nanosatellites and exports:** The company expects to gain scale as it undertakes systems integration work, currently the domain of DPSUs (Defence Public Sector Undertakings), with in-house low-cost design using reusable building blocks (COTS). Further, 17% of revenue is derived from space/exports, diversifying risks from domestic defence budget allocation. These segments will likely be ramped up faster through new products (nanosatellites) and government push for defence exports (40%+ CAGR forecasted). Indian Space Sector was valued at $9.6 Bn in 2020 and contributes 2%-3% of the global space economy. This is expected to reach $13 Bn by 2025 and aims to capture ~10% of the global economy by 2030. *(Source: Invest India)*

| | |
|---|---|
| Est Change | - |
| TP Change | - |
| Rating Change | - |

**Company Data and Valuation Summary**

| | |
|---|---|
| Reuters | DATP.BO |
| Bloomberg | DATAPATT IN |
| Market Cap (Rsbn / US$bn) | 150.8 / 1.8 |
| 52 Wk H / L (Rs) | 3,080 / 1,414 |
| ADTV-3M (mn) (Rs / US$) | 1,295.6 / 15.6 |
| Stock performance (%) 1M/6M/1yr | (7.0) / 29.3 / 89.1 |
| Nifty 50 performance (%) 1M/6M/1yr | 2.4 / 3.7 / 27.9 |

| Shareholding | 1QFY24 | 2QFY24 | 3QFY24 |
|---|---|---|---|
| Promoters | 42.4 | 42.4 | 42.4 |
| DIIs | 11.1 | 9.5 | 9.2 |
| FIIs | 5.3 | 7.2 | 6.7 |
| Others | 41.2 | 40.9 | 41.7 |
| Pro pledge | 0.0 | 0.0 | 0.0 |

| Top Shareholders | % of Company |
|---|---|
| Republic of Singapore | 5.62 |
| Tata AIA Life Insurance Co Ltd | 2.06 |
| Vanguard Inc | 1.86 |
| Axis Asset Management Co Ltd | 1.84 |
| Emirate of Abu Dhabi UAE | 1.77 |

**Financial and Valuation Summary**

| Particulars (Rsmn) | FY23 | FY24E | FY25E | FY26E |
|---|---|---|---|---|
| Net Sales | 4,534 | 5,461 | 6,691 | 8,281 |
| *Growth YoY (%)* | *45.9* | *20.4* | *22.5* | *23.8* |
| EBITDA | 1,719 | 2,144 | 2,746 | 3,617 |
| *EBITDA margin (%)* | *37.9* | *39.3* | *41.0* | *43.7* |
| Adj. PAT | 1,240 | 1,804 | 2,303 | 2,967 |
| *Growth YoY (%)* | *27.3* | *33.0* | *34.4* | *35.8* |
| EPS (Rs) | 22.1 | 32.2 | 41.1 | 53.0 |
| *RoE (%)* | *14.2* | *14.6* | *16.4* | *18.4* |
| EV/EBITDA | 84.6 | 68.8 | 54.3 | 41.5 |
| P/E (x) | 121.6 | 83.6 | 65.5 | 50.8 |

*Source: Bloomberg, Company, Nirmal Bang Institutional Equities Research*

**Key Links :**

FY23 Annual Report | 3QFY24Result

*Please refer to the disclaimer towards the end of the document.*

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## Company background

Data Patterns (India) Limited is one of the few vertically integrated defence and aerospace electronics solutions providers catering to the indigenously developed defence products industry with end-to-end capabilities and a large addressable market. It focuses on in-house development and manufacturing facilities led by innovation, design, and development efforts. It has diversified order books for marquee customers and state-of-the-art manufacturing facilities. It has been in the business for over 35 years. It has supplied products catering to all space, air, land, and sea platforms, including products for LCA-Tejas, Light Utility Helicopters, and BrahMos missiles. Many of its senior personnel have been associated with the company for over 2 decades. The company has 865+ qualified Engineers out of 1298. ***(Source: Investor Presentation Q3 FY 2023-24)***

The company was incorporated as "Indus Teqsite Private Limited" on November 11, 1998, in Bangalore, Karnataka, as a Private Limited Company under the Companies Act, 1956. Following a Scheme of Amalgamation, the company's name was changed to "Data Patterns India Private Limited," the Registrar of Companies, Tamil Nadu, issued a fresh certificate of incorporation on August 04, 2021. Subsequently, the company was converted into a public limited company, and a fresh certificate of incorporation was issued on September 13, 2021.

## Investment Argument:

The company has maintained a strong revenue CAGR of 36% during FY19 – FY23. NBIE believes that the same will be maintained driven by the following:

1) Initiatives such as Atmanirbhar Bharat, Positive Intergeneration list, and the Defence Modernization Plan by the Government of India.
2) The government's commitment to procuring from Indian companies and focusing on indigenization gives indigenous companies preference over foreign OEMs, potentially reducing dependency on foreign components over time.
3) Participating in large-value tenders with MOD under Make I and Make II categories, Data Patterns recognizes the importance of indigenization in Make I projects, where the entire process from design to manufacturing is conducted domestically.
4) These projects can potentially enhance indigenous capabilities and significantly foster innovation within the country. However, they may require extensive infrastructure, expertise, and investment, all of which Data Patterns possesses.
5) Leveraging full system contracts, Data Patterns enjoys higher margins due to cost advantages for products manufactured in India.
6) Additionally, the company maintains a competitive edge in fields like Nano/Micro Satellites, Radars, Electronic Support Measures (ESM), and Communication systems.

**Exhibit 1: Revenue growth to remain strong at 20%+**

| Segmental breakup (INR Mn) | | | | Well-diversified customer base (INR Mn) | | |
|---|---|---|---|---|---|---|
| **Products** | **9MFY24** | **YoY (%)** | **Contribution (%)** | **Customer** | **9MFY24** | **YoY (%)** |
| ATE | 254 | -47% | 8% | BEL | 57 | 132% |
| AMC | 173 | 128% | 5% | BrahMos | 480 | 301% |
| AVIONICS | 439 | 11% | 13% | DOS | 158 | 18% |
| EW | 621 | 64% | 18% | DRDO | 1,158 | 76% |
| Radar | 1,579 | 56% | 47% | DRO | - | - |
| Radar Processor | 240 | 860% | 7% | Export | 153 | -68% |
| Fire Control System | 3 | | - | HAL | 313 | -14% |
| Others | 67 | -77% | 2% | Indian Navy | - | - |
| Missile | - | - | - | MOD | 1,031 | 23% |
| PWM | - | - | - | Others | 24 | -54% |
| **Total** | **3,376** | **26%** | | **Total** | **3,374** | **26%** |

*Source: Company, Nirmal Bang Institutional Equities Research*

**Automated Test Equipment (ATE), Electronic warfare (EW), Annual Maintenance Contract (AMC), Pulse Width Modulation (PWM)*

DPIL generates 78% of its sales from three significant segments: avionics (13%), electronic warfare (EW) (18%), and radar systems (47%). Management stated that the trend will remain largely consistent in the forecasted years (FY24-26). DPIL boasts of single vendor contracts - obtained 78% of the contracts from the Ministry of Defence (MOD) (30%), Defence Research Development Organisation (DRDO) (34%), BrahMos (14%), and Bharat Electronics Limited (BEL) (1.7%) YTD FY24. We believe the pattern will hold steady in the coming years, with small increases in recurrent orders from BEL and Brahmos providing order visibility (FY24-26). In contrast, many MOD orders are competitive and offer little guidance for the future.

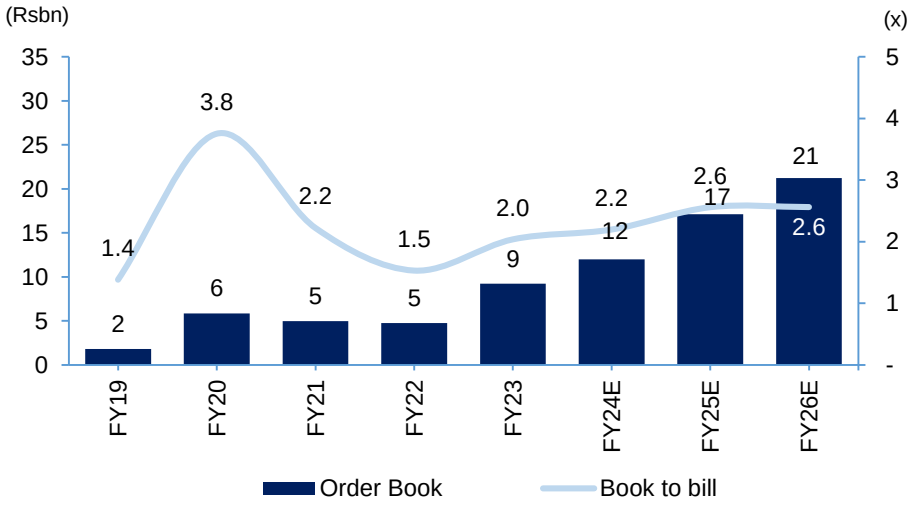
**Exhibit 2: Leveraging developed skills to improve productivity.**

| Revenue Breakup | FY21 | FY22 | FY23 | FY24E | FY25E | FY26E | CAGR (FY19-FY23) |
|---|---|---|---|---|---|---|---|
| Production | 1,702 | 2113 | 2992 | 3277 | 4015 | 4968 | 37.4% |
| *Production as a % of Sales* | *76.0%* | *68.0%* | *66.0%* | *60.0%* | *60.0%* | *60.0%* | - |
| Development | 358 | 777 | 1315 | 1966 | 2409 | 2981 | 37.6% |
| *Development as a % of Sales* | *16.0%* | *25.0%* | *29.0%* | *36.0%* | *36.0%* | *36.0%* | - |
| Services | 179 | 218 | 227 | 218 | 268 | 331 | 21.3% |
| *Services as a % of Sales* | *8.0%* | *7.0%* | *5.0%* | *4.0%* | *4.0%* | *4.0%* | - |
| **Total** | **2240** | **3108** | **4534** | **5461** | **6691** | **8281** | **36.4%** |

*Source: Company, Nirmal Bang Institutional Equities Research*

DPIL's production dipped to 55% in 9MFY24 from 66% in FY23. This trend is projected to improve in the coming years, as the company's indigenously designed equipment has the potential to generate more repeat orders from its customers. In 9MFY24, development contributed 40%, predicted to drop to 36% in FY24-26. The service contribution will follow a similar pattern, continuing at 4% in ensuing quarters.

**Exhibit 3: Robust order book reflect execution capabilities**



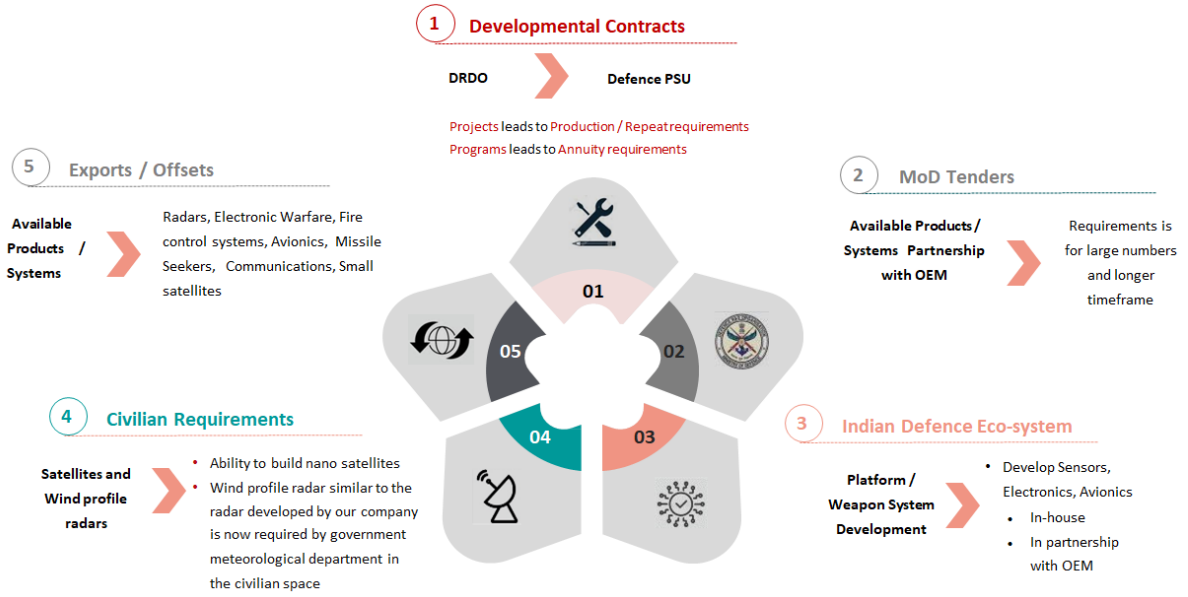

*Source: Company, Nirmal Bang Institutional Equities Research*

DPIL's order book expanded at a 45% CAGR over five years, from Rs 2 bn in FY19 to Rs 9 bn in FY23. In 3QFY24, DPIL received orders of Rs 991 mn. The breakdown is shown below:

1. Rs 101 mn worth from DRDO and the Department of Space, respectively.
2. 2 in avionics development totaling Rs 439 mn
3. Manufacturing of avionics for Rs.167 mn from DRDO
4. EW manufacturing worth Rs 42mn and Rs 43mn by BEL and DRDO, respectively.
5. Naval manufacturing - Rs 42 mn and AT production - Rs 22 mn.

The NBIE anticipates that the order book for FY24 will be over Rs 12 bn executable over 4-5 years, up from 9.6 bn in 9MFY24, and more orders are expected in the ensuing years.

**Exhibit 4: Well diversified product portfolio**




*Source: Company, Nirmal Bang Institutional Equities Research*

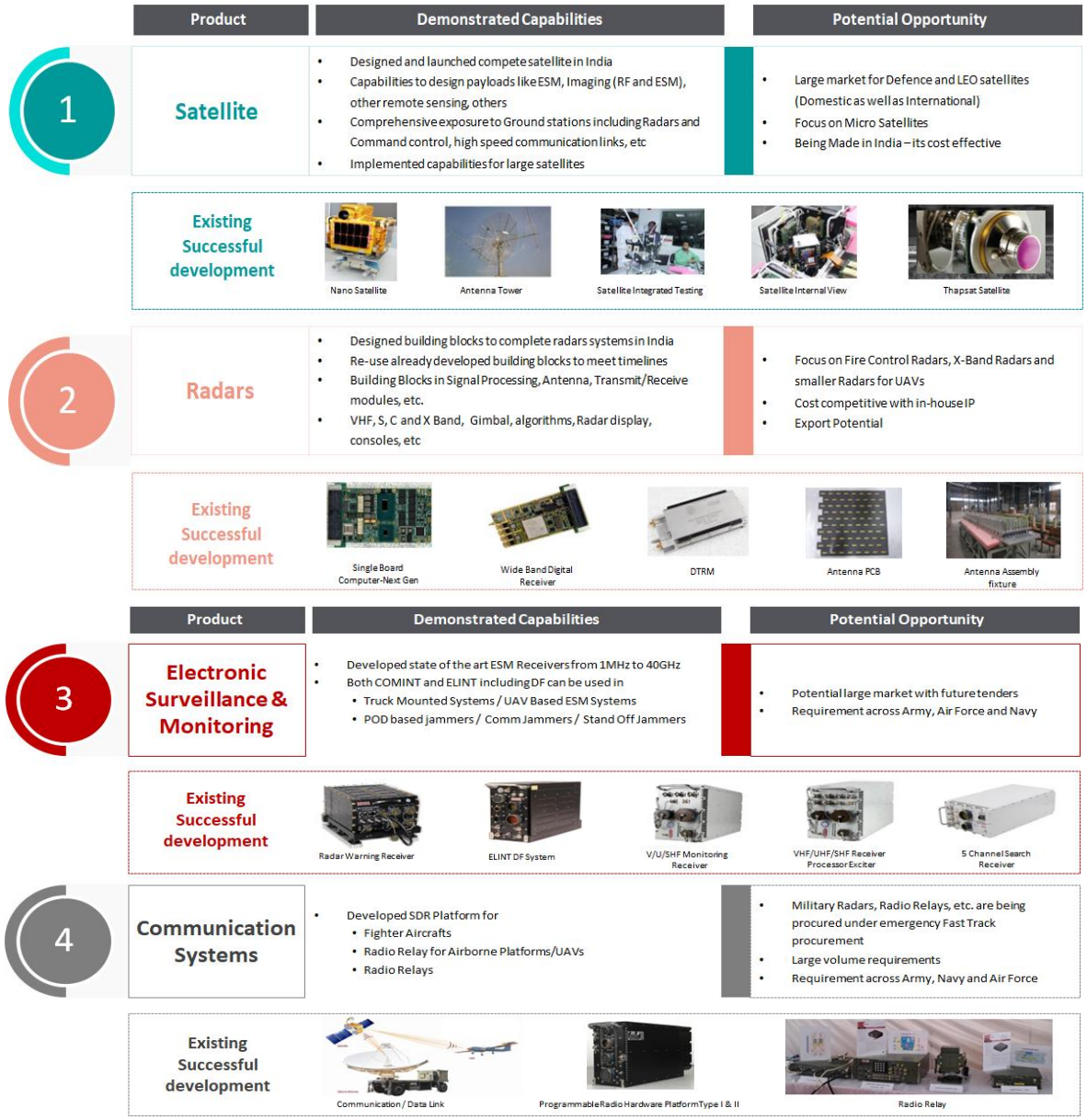
**Exhibit 5: Future Contracts in MAKE-I and MAKE-II categories to come from Modernization Programmes**

| | |
|---|---|
| **Arudhra Radar**<br>• Expected to supply ~55 units of AGRU/ Arudhra radar<br>• Likely to generate revenues in the next 3-4 years based on the requirement projection of IAF | **Light weight EW requirements**<br>• EW capability will help in supplying products for Light weight EW products which have a heavy requirement in mountainous borders as they are not adequately covered, and the same has been prioritized due to the increased geo-political tension |
| **Ashwini LLTR**<br>• Partner in the development of these radars as a single vendor incl. TR module, AGRU, signal processor, etc<br>• Expected to realise revenue between $10-30 mn in the next few years | **Airborne surveillance radar**<br>• Has delivered an airborne surveillance radar (all of the hardware) to LRDE which is expected to be flight tested in the next few months and will be likely inducted in Navy's Dornier upgrade and new helicopter programs |
| **Dharashakti programme**<br>• Has received single vendor orders from DLRL for development and supply of all of the COMINT search receivers, Direction Finder & Monitoring receivers<br>• In a position to be an OEM for the entire receiver systems. With likely revenues of $ 50 mn on complete execution | **Radar Warning Receivers**<br>• Also, a part of the Radar Warning Receivers for the Airborne Early Warning System ("AEW &C") to DLRL which has been fitted on the Embraer early warning radar developed by the Centre for Air Borne System ("CABS") |
| **MI 17 Upgrades, Dornier Upgrades, Aerostat upgrades**<br>• Expertise gained in the Dharashakti project would also position to cater for airborne COMINT and ELINT equipment for various upgrades of any new rotary wing programs | **Next Gen completely wide open for LCA Mk IA and Sukhoi 30 platforms**<br>• Likely to deliver Next-Gen completely wide open for LCA Mk IA and Sukhoi 30 platforms subject to flight testing.<br>• After flight testing, these can be fitted on the 83 LCA MK IA on order as well as the Sukhoi 30 upgrades (approximately 270 numbers), attack helicopters, etc. |

*Source: Company, Nirmal Bang Institutional Equities Research*

DPIL aims to develop scale as it pursues systems Brahmos seekers: the company has participated in all Brahmos seekers testing and has given the results to DRDO. The firm is actively engaging in the Make 1 and Make 2 programs, and it anticipates revenue to increase dramatically in the future years. Dornier upgrades are moving steadily, with the business working on EW systems, radars, etc.

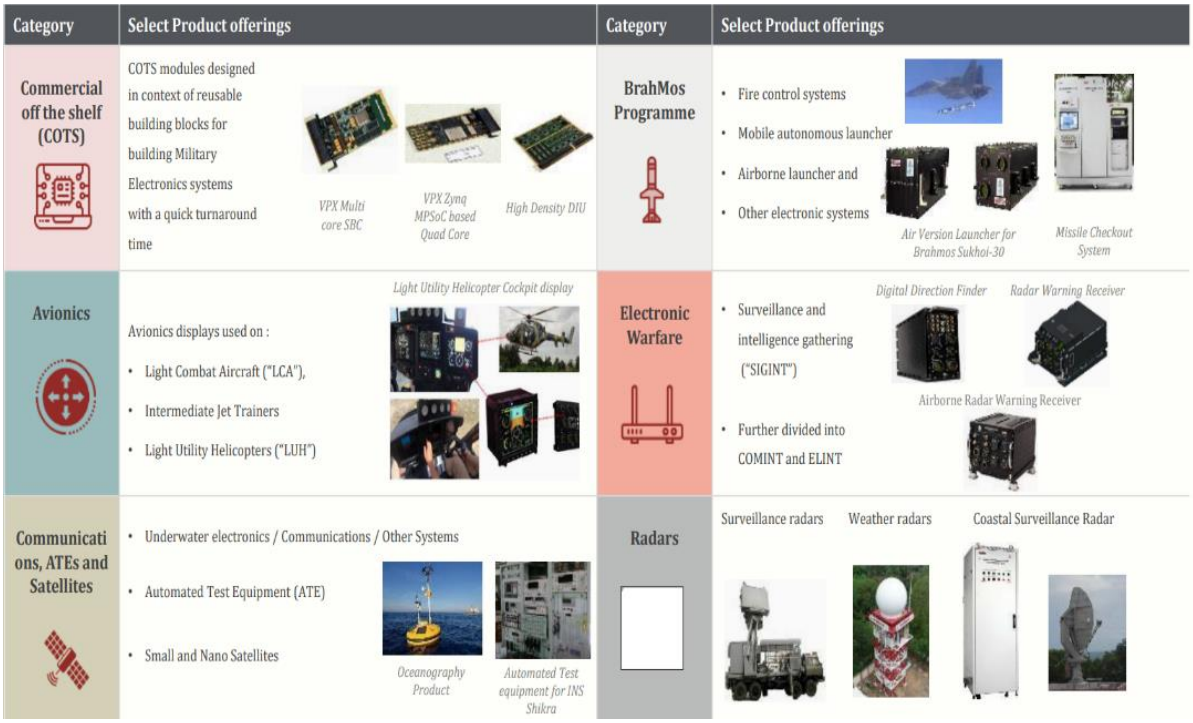
**Exhibit 6: Favorable business mix drives operating performance**




*Source: Company, Nirmal Bang Institutional Equities Research*

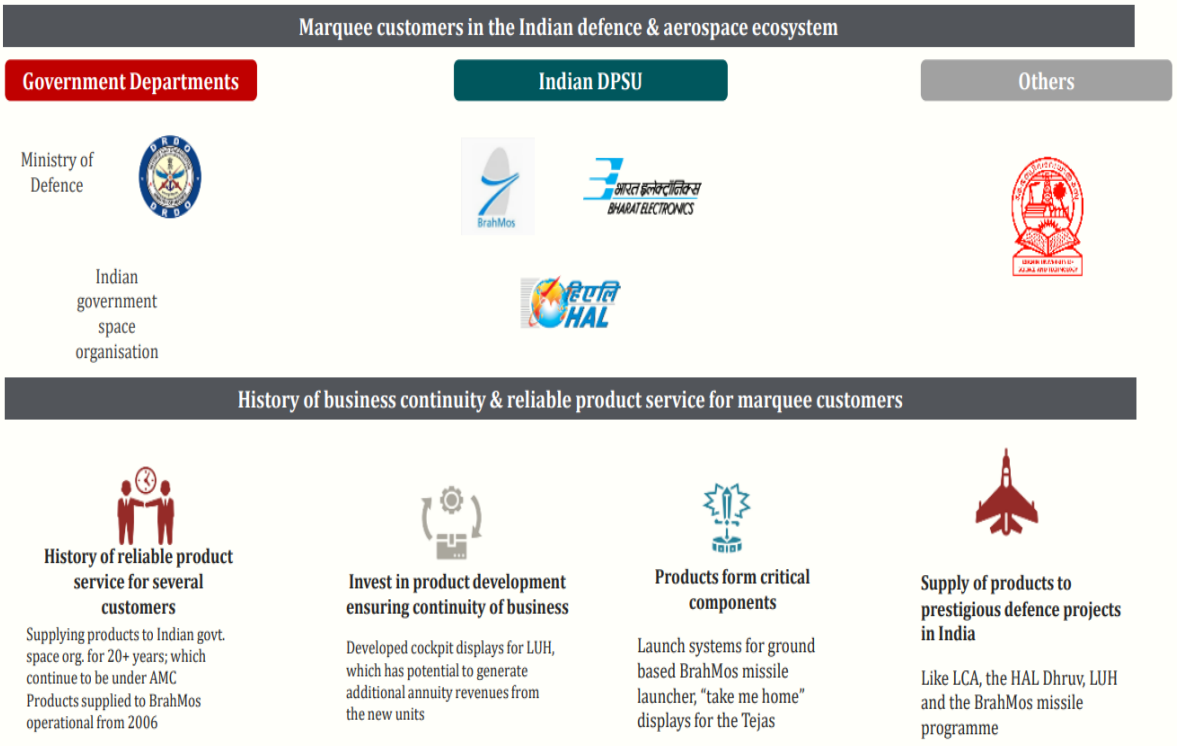
The business has developed sophisticated products using reusable building blocks (military-grade commercial off-the-shelf software). This enables the company to keep development expenses low while receiving several orders from a single provider, increasing competitors' entry barriers.

## Exhibit 7: DPIL Products Portfolio



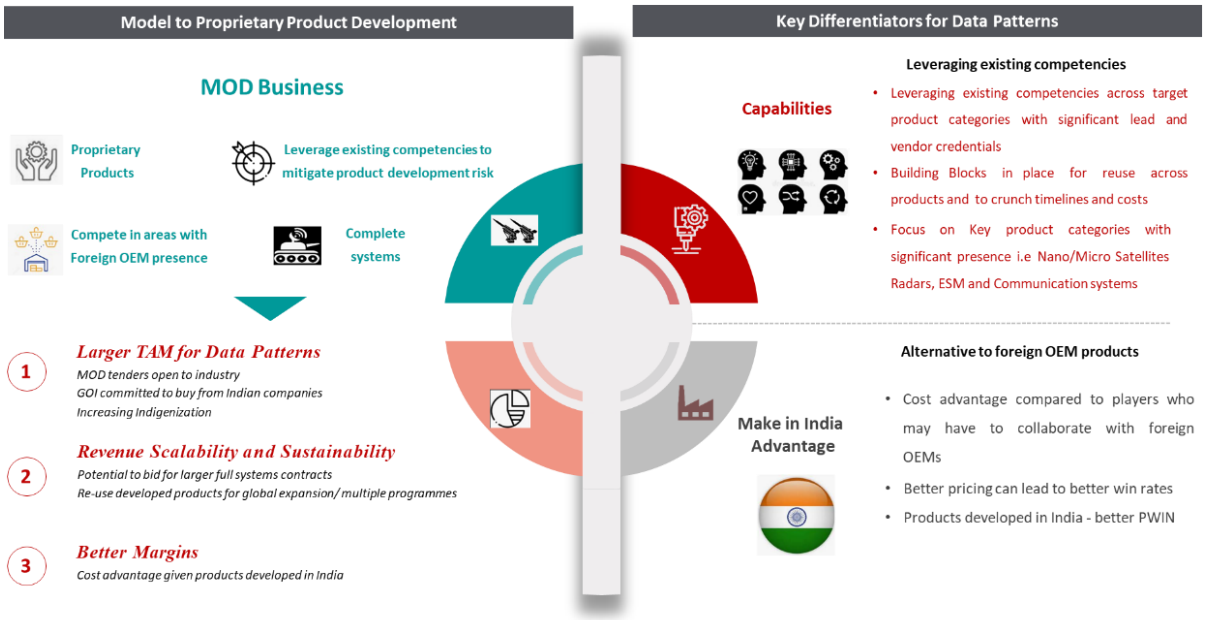

*Source: Company, Nirmal Bang Institutional Equities Research*

## Exhibit 8: Marquee Clients




*Source: Company, Nirmal Bang Institutional Equities Research*

**Exhibit 9: Well-Positioned to benefit from Make in India Opportunity**




*Source: Company, Nirmal Bang Institutional Equities Research*

The government recently approved defence acquisitions for around Rs 78 bn. Furthermore, DPIL has begun engaging in large-value bids with the MOD in the Make I and II categories, increasing the entire addressable market and income possibilities.

**Exhibit 10: Through well-invested and cutting-edge manufacturing facilities**


*Source: Company, Nirmal Bang Institutional Equities Research*

## A reputable and experienced Management Team

### Mr. Srinivasagopalan Rangarajan, Promoter, Chairman & MD

Mr. Srinivasagopalan Rangarajan brings over 30 years of expertise in business development, corporate affairs, finance, and marketing. He holds a B.Tech in Chemical Engineering from the University of Madras and an M.S from IIT, Madras, demonstrating a strong educational background complementing his extensive professional experience.

### Mr. Vijay Ananth K, Whole Time Director, COO & CISO

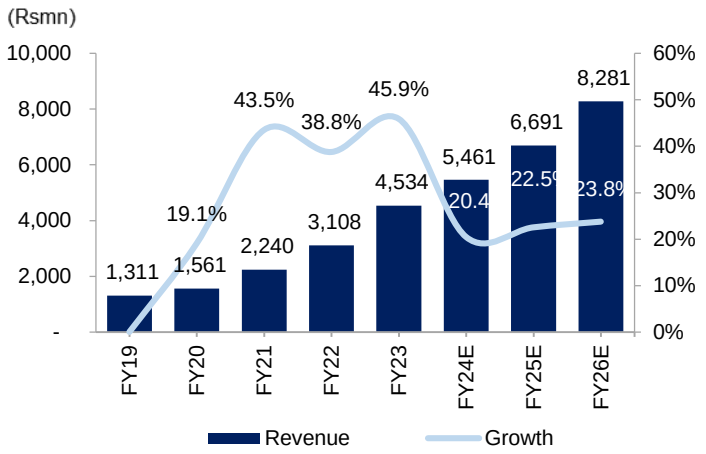
Mr. Vijay Ananth K possesses over 20 years of expertise in software engineering and product management. He earned a BCS from Manomanian Sundaranar University and a Master's degree in computer applications from the University of Madras. With more than two decades of association with Data Patterns, his extensive experience underscores his significant role within the organization.

### Mr. Venkata Subramanian Venkatachalam, CFO

Mr. Venkata Subramanian Venkatachalam boasts over 20 years of experience in the finance sector. He holds a B.Com from Madurai Kamaraj University and is a member of the Institute of Chartered Accountants of India (ICAI). His association with Data Patterns spans more than two decades, highlighting his significant qualifications in finance.

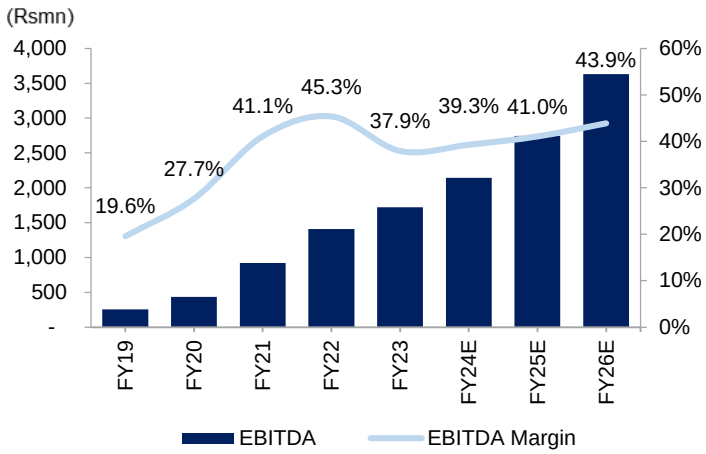
## Data Patterns (India) Limited: Key Performance Indicators

**Exhibit 11: Revenue CAGR steady at 20%+ in FY24-26**



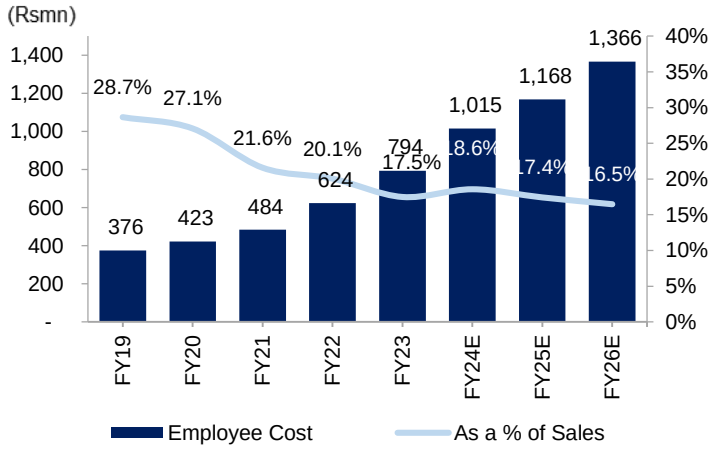

*Source: Company, Nirmal Bang Institutional Equities Research*

**Exhibit 12: EBITDA margin to improve to 40%+ in FY24-26**



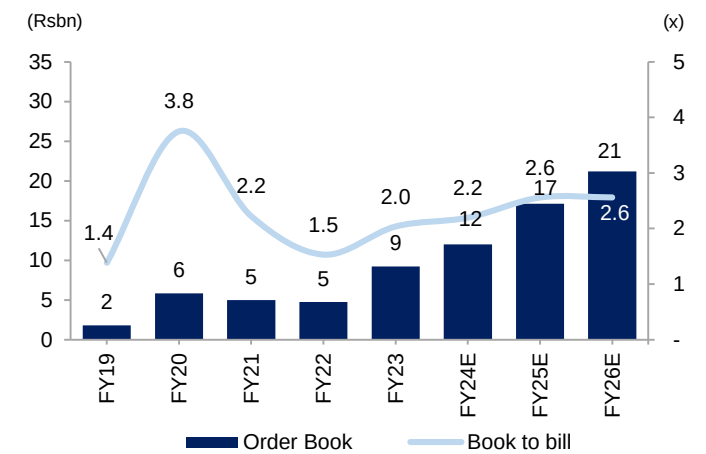

*Source: Company, Nirmal Bang Institutional Equities Research*

**Exhibit 13: Employee cost to observe declining trend**



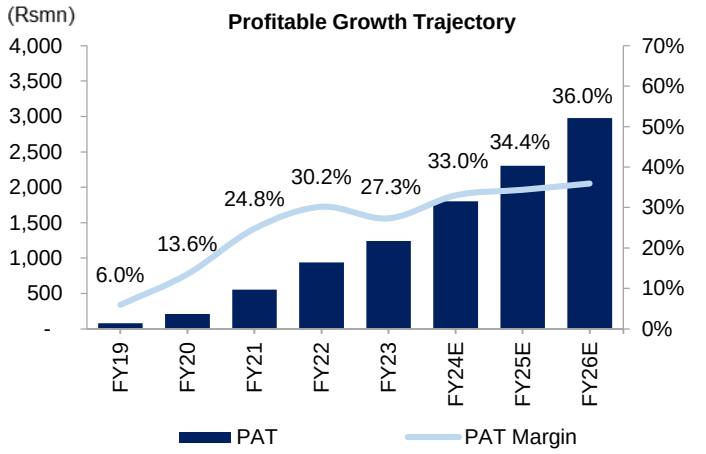

*Source: Company, Nirmal Bang Institutional Equities Research*

**Exhibit 14: Strong order book remains the key driver for revenue growth**



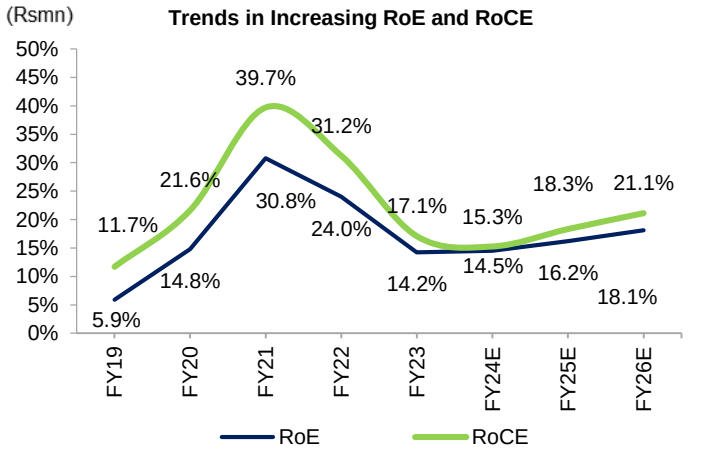

*Source: Company, Nirmal Bang Institutional Equities Research*

**Exhibit 15: PAT Margin stablise at 30%+ in the forecast years**




*Source: Company, Nirmal Bang Institutional Equities Research*

**Exhibit 16: Return ratios to improve in FY26E**




*Source: Company, Nirmal Bang Institutional Equities Research*

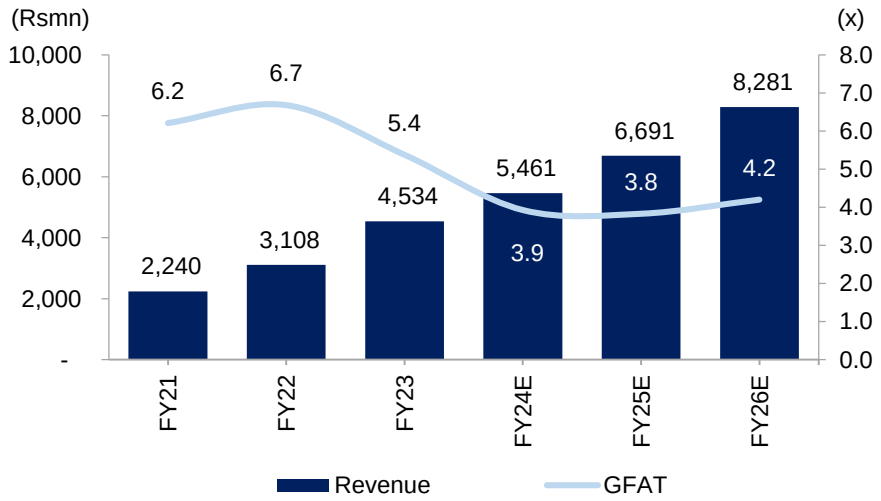
**Exhibit 17: Cash Conversion Cycle Trends**

| Cash Conversion Cycle | FY20 | FY21 | FY22 | FY23 | FY24E | FY25E | FY26E |
|---|---|---|---|---|---|---|---|
| Debtor Days | 256 | 221 | 208 | 234 | 200 | 190 | 180 |
| Inventory Days | 541 | 397 | 410 | 334 | 300 | 289 | 270 |
| Payable Days | 108 | 76 | 106 | 87 | 95 | 100 | 110 |
| **CCC** | **689** | **542** | **512** | **481** | **405** | **379** | **340** |

*Source: Company, Nirmal Bang Institutional Equities Research*

DPIL expects to maintain a working capital cycle of 240 to 270 days by FY30. It is presently decreasing since inventory cycles are projected to slow down owing to COVID-19 pandemic-related supply chain difficulties. Also, manufacturing contract executions are growing, which will reduce collection cycles. So, all of these factors are likely to decrease the working capital cycle to 240 to 270 days by FY30.

**Exhibit 18: Higher revenue to offset expansion plans**

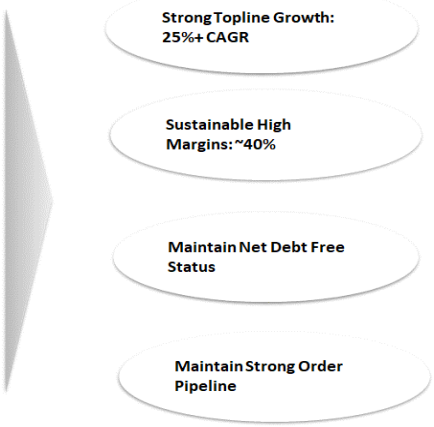



*Source: Company, Nirmal Bang Institutional Equities Research*

DPIL's FY21-23 GFAT was ~6.2x, reflecting low capex in previous years. The company is utilizing the proceeds from IPO/QIP in development projects: Data Patterns claimed that it is using the money from its IPO (Rs2.8 bn) and QIP (4.9 bn) in accordance with the offer terms. It has begun product development for radars, communication systems, electronic warfare, and satellites. The company's capex is minimal since it produces components for larger items rather than entire products. According to management, a significant Capex of Rs2 bn to Rs3 bn would be done if DPIL gets large ticket orders, such as the Ashwini Radar in the subsequent years.

**Exhibit 19: DPIL has set modest targets for FY 25 and FY 26**

- Targeting larger opportunities in Radar, EW, Communication Systems and Satellite business
- Expects to be a major participant for Rs20-30 bn worth of contracts in the next 3-4 years
- Efficient execution to promote operating leverage; Should drive strong EBITDA and PAT margins
- Exploring further opportunities in export market; Working in collaboration with domestic players




*Source: Company, Nirmal Bang Institutional Equities Research*

**Future Outlook:**

Data Patterns targets large-scale projects in Radar systems, EW, Communication systems, and Satellite business. The company is optimistic about securing orders worth Rs 20-30 bn in the next four years. Additionally, it is exploring opportunities in foreign markets. Being debt-free and maintaining high margins of around 40%, along with strong orders in the pipeline, positions Data Patterns for further growth and success.

**View and Valuation:**

The healthy order book will grow to three times its current size as a result of continuing Central Government assistance to improve India's defence sector production and exports. Furthermore, management is putting more emphasis on domestic sales, which offer higher profit margins than exports. We anticipate a revenue/EBITDA/PAT CAGR of 23%/30%/28% in FY24-26. We assign a multiple at 52x Mar'26E EPS +1 SD lower than the historical trend. We initiate our "Accumulate" rating and target price of Rs 2,755, based on 52x Mar'26 EPS.

**Exhibit 20: Valuation summary**

| Particulars | (Rs mn) |
|---|---|
| March 26E EPS | 53.0 |
| Target multiple (x) | 52.0 |
| **Target price (Rs)** | **2,755** |
| CMP (Rs ) | 2,693 |
| **Upside / (downside) %** | **2%** |

*Source: Company, Nirmal Bang Institutional Equities Research*

## RISKS AND CONCERNS

**Government Dependency and Market Uncertainty**

DPIL are heavily dependent on government orders and Defence PSUs. Any change in government policies and defence allocation will have a direct impact on the company's revenue and future growth. The risk of delayed orders from the Government of India will significantly impact revenue. There is always uncertainty in securing government orders, which will affect future revenues.

**No Large-Ticket Orders**

As DPIL is mainly developing a small part of large-sized products, to remain relevant in the future and achieve a high topline, it should focus on securing large-ticket orders, which will enhance its topline with higher EBITDA margins. However, obtaining these contracts through bidding involves high uncertainty, which raises concerns about the company's outlook in terms of revenue growth.

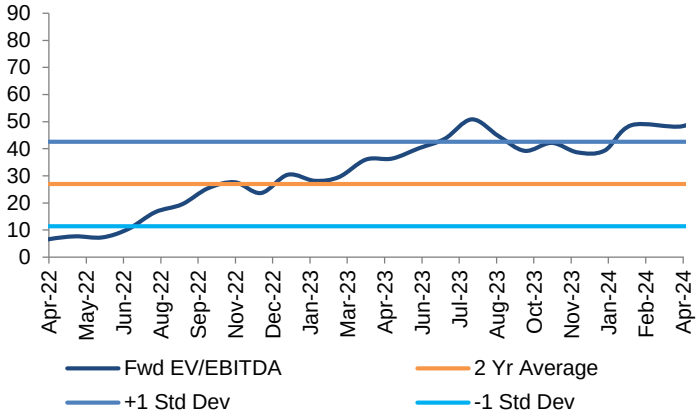
**Innovation Risk**

As Data Patterns operates in a technology-driven industry, it must innovate continuously to remain relevant in the market. In today's rapidly advancing technological landscape, inadequate investment in R&D may render their tech products obsolete.

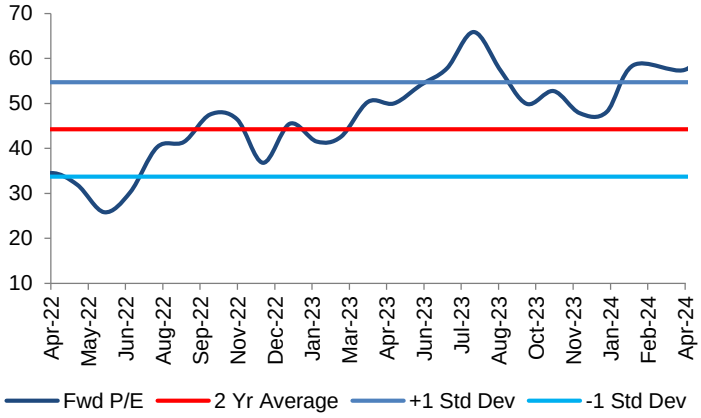
**Challenges in Working capital cycle**

Data Patterns may encounter working capital challenges as its net working capital days for FY23 was 481 days due to long payment cycles and it arises cash flow constraints which will affects its growth opportunities.

**Exhibit 21: Rolling valuation charts**




*Source: Company, Nirmal Bang Institutional Equities Research*




*Source: Company, Nirmal Bang Institutional Equities Research*

## Financial Statements

### Exhibit 22: Income statement

| Y/E March (Rs mn) | FY22 | FY23 | FY24E | FY25E | FY26E |
|---|---|---|---|---|---|
| Net Sales | 3,108 | 4,534 | 5,461 | 6,691 | 8,281 |
| Raw Material Consumed | 916 | 1,941 | 2,114 | 2,431 | 2,859 |
| Purchase of Traded Goods | - | - | - | - | - |
| Changes in Inventory | (55) | (232) | (145) | (36) | (9) |
| Employee Cost | 624 | 794 | 1,015 | 1,168 | 1,366 |
| Other expenses | 214 | 312 | 333 | 382 | 447 |
| Total Expenditure | 1,699 | 2,815 | 3,317 | 3,945 | 4,663 |
| **Operating profit** | **1,409** | **1,719** | **2,144** | **2,746** | **3,617** |
| *Operating profit margin (%)* | *45.3* | *37.9* | *39.3* | *41.0* | *43.7* |
| Other Income | 40 | 92 | 431 | 422 | 420 |
| Interest | 110 | 77 | 86 | 94 | 95 |
| Depreciation | 66 | 85 | 126 | 122 | 138 |
| PBT | 1,273 | 1,649 | 2,364 | 2,952 | 3,804 |
| Exceptional items | - | - | - | - | - |
| PBT post exc items | 1,273 | 1,649 | 2,364 | 2,952 | 3,804 |
| Tax | 334 | 409 | 560 | 649 | 837 |
| *Tax rate (%)* | *26.2* | *24.8* | *23.7* | *22.0* | *22.0* |
| PAT | 939 | 1,240 | 1,804 | 2,303 | 2,967 |
| **Adj PAT** | **939** | **1,240** | **1,804** | **2,303** | **2,967** |
| **EPS (Rs)** | **19.5** | **22.1** | **32.2** | **41.1** | **53.0** |

*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 23: Cash flow

| Y/E March (Rs mn) | FY22 | FY23 | FY24E | FY25E | FY26E |
|---|---|---|---|---|---|
| Profit before tax | 1,273 | 1,649 | 2,364 | 2,952 | 3,804 |
| Add : Depreciation & Impairment | 66 | 85 | 126 | 122 | 138 |
| Others Income | 70 | 41 | (1,219) | 96 | 98 |
| Cash flow from operations before WC | 1,410 | 1,775 | 1,271 | 3,171 | 4,039 |
| Net change in Working capital | (1,461) | (1,412) | 1,225 | (625) | (609) |
| Tax paid | (282) | (534) | (560) | (649) | (837) |
| **Net cash from operations** | **(334)** | **(172)** | **1,936** | **1,896** | **2,593** |
| Capital expenditure | (382) | (395) | (550) | (165) | (285) |
| Free Cash Flow | -716 | -567 | 1386 | 1731 | 2308 |
| Others | 40 | (3,437) | (3,086) | (2,770) | (2,486) |
| **Net cash from investing** | **(342)** | **(3,832)** | **(3,636)** | **(2,935)** | **(2,771)** |
| Dividends paid incl. tax | (111) | 4,380 | (367) | (468) | (603) |
| Others | 2,470 | - | (86) | (94) | (95) |
| **Net cash from financing** | **2,359** | **4,380** | **(453)** | **(562)** | **(698)** |
| Net Cash | 1,682 | 377 | (2,152) | (1,601) | (877) |
| Opening Cash | 88 | 1,771 | 2,148 | (5) | (1,606) |
| Closing Cash | 1,770 | 2,148 | (5) | (1,606) | (2,482) |

*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 24: Balance sheet

| Y/E March (Rs mn) | FY22 | FY23 | FY24E | FY25E | FY26E |
|---|---|---|---|---|---|
| Equity Capital | 104 | 112 | 112 | 112 | 112 |
| Other Equity | 5,641 | 11,558 | 12,995 | 14,830 | 17,194 |
| Minority interest | - | - | - | - | - |
| Networth | 5,745 | 11,670 | 13,107 | 14,942 | 17,306 |
| Total Debt | 302 | 143 | 171 | 171 | 171 |
| Deferred tax liability | - | - | - | - | - |
| Other non current liabilities | 280 | 1,409 | 105 | 107 | 109 |
| Trade Payables | 382 | 431 | 513 | 656 | 859 |
| Other Current Liabilities | 359 | 697 | 697 | 697 | 697 |
| **Total liabilities** | **7,067** | **14,350** | **14,592** | **16,573** | **19,141** |
| PPE | 442 | 913 | 1,365 | 1,407 | 1,553 |
| CWIP | 173 | 14 | 14 | 15 | 16 |
| Investment property | - | - | - | - | - |
| Intangible assets under development | 20 | 188 | 188 | 188 | 188 |
| Intangible Assets | 14 | 20 | 20 | 20 | 20 |
| Investments | - | - | - | - | - |
| Deferred Tax Assets | 8 | 3 | 3 | 3 | 3 |
| Other Non-Current Assets | 1,213 | 861 | 861 | 861 | 861 |
| Inventories | 1,198 | 1,930 | 1,619 | 1,896 | 2,108 |
| Trade receivables | 1,983 | 3,825 | 2,992 | 3,483 | 4,084 |
| Cash & Near-Cash Items | 1,771 | 2,148 | (5) | (1,606) | (2,482) |
| Other Current Assets | 247 | 4,450 | 7,536 | 8,036 | 12,792 |
| **Total Assets** | **7,067** | **14,350** | **14,592** | **16,573** | **19,141** |

*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 25: Key ratios

| Y/E March | FY22 | FY23 | FY24E | FY25E | FY26E |
|---|---|---|---|---|---|
| **Growth (%)** | | | | | |
| Sales | 38.8 | 45.9 | 20.4 | 22.5 | 23.8 |
| Operating Profits | 53.2 | 22.0 | 24.7 | 28.1 | 31.7 |
| Net Profits | 68.9 | 32.0 | 45.5 | 27.6 | 28.8 |
| **Leverage (x)** | | | | | |
| Net Debt: Equity | (0.29) | (0.46) | (0.25) | (0.11) | (0.05) |
| Interest Cover(x) | 12.2 | 21.2 | 23.4 | 27.9 | 36.5 |
| Total Debt/EBITDA | 0.06 | 0.01 | 0.01 | 0.01 | 0.01 |
| **Profitability (%)** | | | | | |
| OPM | 45.3 | 37.9 | 39.3 | 41.0 | 43.7 |
| NPM | 30.2 | 27.3 | 33.0 | 34.4 | 35.8 |
| ROE | 24.0 | 14.2 | 14.6 | 16.4 | 18.4 |
| ROCE | 31.2 | 17.1 | 15.3 | 18.6 | 21.4 |
| **Turnover ratios (x)** | | | | | |
| GFAT | 6.7 | 5.4 | 3.9 | 3.8 | 4.2 |
| Debtors Turnover(x) | 0.6 | 0.8 | 0.5 | 0.5 | 0.5 |
| WC days | 512 | 481 | 405 | 379 | 340 |
| **Valuation (x)** | | | | | |
| P/E | 138.3 | 121.6 | 83.6 | 65.5 | 50.8 |
| P/B | 22.6 | 12.9 | 11.5 | 10.1 | 8.7 |
| EV/EBIDTA | 91.0 | 84.6 | 68.8 | 54.3 | 41.5 |

*Source: Company, Nirmal Bang Institutional Equities Research*

## DISCLOSURES

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### Stock Ratings Absolute Returns

BUY > 15%

ACCUMULATE -5% to15%

SELL < -5%

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