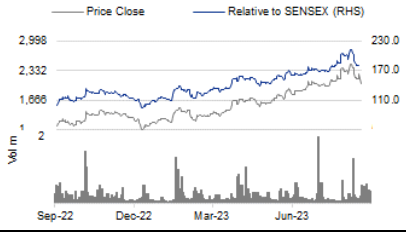
India

**ADD** *(Initiating coverage)*

| Consensus ratings*: | Buy 4 | Hold 2 | Sell 0 |
|---|---|---|---|
| Current price: | | | Rs2,046 |
| Target price: | | | Rs3,000 |
| Previous target: | | | NA |
| Up/downside: | | | 46.6% |
| EIP Research / Consensus: | | | 26.2% |
| Reuters: | | | DATP.NS |
| Bloomberg: | | | DATAPATT IN |
| Market cap: | | | US$1,578m |
| | | | Rs114,552m |
| Average daily turnover: | | | US$7.1m |
| | | | Rs517.9m |
| Current shares o/s: | | | 56.0m |
| Free float: | | | 57.6% |

*Source: Bloomberg*




*Source: Bloomberg*

| Price performance | 1M | 3M | 12M |
|---|---|---|---|
| Absolute (%) | (2.1) | 21.0 | 89.5 |
| Relative (%) | (5.2) | 13.2 | 70.2 |

| Major shareholders | % held |
|---|---|
| Promoter group | 42.4 |
| Axis Mutual Fund | 2.4 |
| Tata AIA Life Insurance | 2.3 |

# Data Patterns (India) Ltd

## A force to reckon with

- Data Patterns is a high-growth company with consistent margins & improving return ratios. We expect its strong momentum to continue in the medium term.
- A robust order backlog with a strong order pipeline and the focus on in-house product development and exports, we feel, will aid high growth and margins.
- Initiate coverage on the stock with an ADD rating and a target price of Rs3,000 based on a P/E of 50x end-Sep 2025F EPS.

### Robust order wins to accelerate near-term growth

Data Patterns order book (OB) nearly doubled in FY23 to Rs9.2bn (2x OB/TTM sales). The company's OB is well diversified with production (31%), development (64%) and services (5%) orders. Anticipating a substantial presence in the market, the company aims to secure new contracts worth over Rs30bn in the next three years *(Figs. 3 and 4)*.

### High growth to sustain as the share of production contracts rises

In-house design & development contracts open new opportunities (29% of FY23 sales). The higher share of development contracts in the OB is a positive sign as these contracts may translate into future production & export orders *(Fig. 2)*. Once they are in the production stage, repeat & large-volume orders could boost the revenue from production contracts (66% of FY23 sales). In this regard, please see *Fig. 9*.

### We expect a revenue CAGR of ~40% over FY23-26F

Data Patterns posted a revenue CAGR of ~42% over FY20-23 because of a lower base and improving order book. FY23 revenue grew by 46% yoy, led by better planning and execution of orders in hand. The higher EBITDA margin (~40%) is likely to sustain owing to a greater impetus to in-house development and production. We forecast an EBITDA CAGR of 44% over FY23-FY26F, with margins sustaining their 40-42% range *(Fig. 13)*.

### Net working capital (ex-cash) days to remain elevated

Net working capital (NWC) improved from 312 days in FY20 to 255 days in FY22. In FY23, NWC worsened to 296 days because of increased inventory procurement to mitigate supply chain disruption and higher receivables days *(Fig. 16)*. Data Patterns' NWC is high on account of higher receivables (308 days), higher inventory (155 days), and lower creditor days (35 days). Going ahead, we expect NWC days to further improve to 250 days over FY23-26F on the back of better execution of the order book.

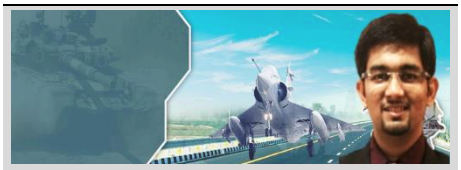
### Initiate coverage with an ADD rating and a target price of Rs3,000

We feel the expansion in manufacturing facility and an experienced management team (average experience of 20 years+) will help Data Patterns to achieve sales and EPS CAGR of 38%/ 45%, respectively, over FY23-26F. We expect the company to post healthy RoE/RoCE of ~22% by FY26F *(Fig.15)*. We initiate coverage on the stock with an ADD rating and a target price of Rs3,000 (50x Sep 2025F EPS), implying a 47% upside from the CMP. Downside risks: Lower-than-expected new order wins and margins, & any budgetary cut or delay by the government.

| Financial Summary | Mar-22A | Mar-23A | Mar-24F | Mar-25F | Mar-26F |
|---|---|---|---|---|---|
| Revenue (Rsm) | 3,108 | 4,535 | 6,284 | 9,094 | 12,039 |
| Operating EBITDA (Rsm) | 1,410 | 1,718 | 2,555 | 3,837 | 5,085 |
| Net Profit (Rsm) | 940 | 1,240 | 1,966 | 2,871 | 3,793 |
| Core EPS (Rs) | 18.1 | 22.1 | 35.1 | 51.3 | 67.7 |
| Core EPS Growth | (72.3%) | 22.3% | 58.5% | 46.0% | 32.1% |
| FD Core P/E (x) | 113.02 | 92.40 | 58.28 | 39.91 | 30.21 |
| DPS (Rs) | 3.5 | 4.5 | 7.1 | 10.4 | 13.8 |
| Dividend Yield | 0.15% | 0.17% | 0.26% | 0.39% | 0.51% |
| EV/EBITDA (x) | 74.09 | 63.20 | 42.40 | 28.10 | 21.01 |
| P/FCFE (x) | (65.73) | (115.87) | (660.34) | 453.53 | 229.53 |
| Net Gearing | (29.6%) | (46.6%) | (38.6%) | (32.5%) | (27.6%) |
| P/BV (x) | 18.48 | 9.82 | 8.59 | 7.27 | 6.04 |
| ROE | 24.0% | 14.2% | 15.7% | 19.7% | 21.8% |
| % Change In Core EPS Estimates | | | | | |
| InCred Research/Consensus EPS (x) | | | | | |

SOURCE: INCRED RESEARCH, COMPANY REPORTS

### Analyst(s)



**Dipen VAKIL**
**T** (91) 22 4161 1551
**E** dipen.vakil@incredcapital.com

# A force to reckon with

## Introduction

Data Patterns is among the few vertically integrated defence and aerospace electronics solutions provider catering to the indigenously developed defence products industry. The company's revenue is bifurcated into three segments: production contracts (66%), development contracts (29%), and service contracts (5%). We believe Data Patterns is poised for robust growth over the next three-to-five years led by the scale-up to sub-systems integration and large-volume repeat orders following the increased indigenization of the defence industry.

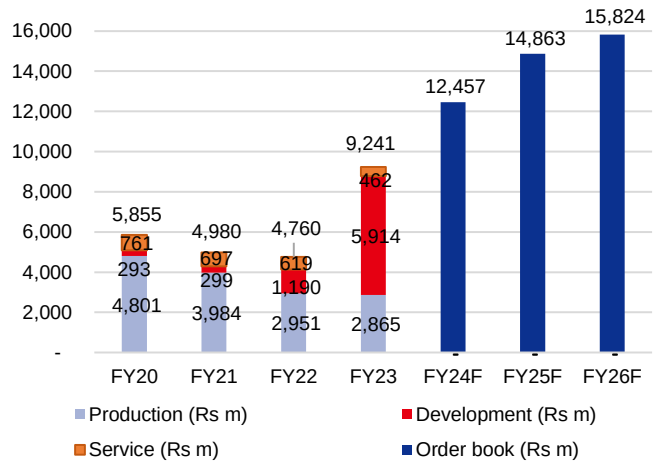
## Investment thesis

### Strong order flow to drive near-term growth »

- **Order book nearly doubles in FY23, outpacing expectations:** Data Patterns' order book grew by 94% to Rs9.2bn with the order book-to-sales ratio at 2x FY23 revenue. The order book is well-diversified, with 31% production contracts, 64% development contracts, and 5% service contracts. The high share of development contracts is a positive sign for the company, as these contracts could translate into future production and export orders.

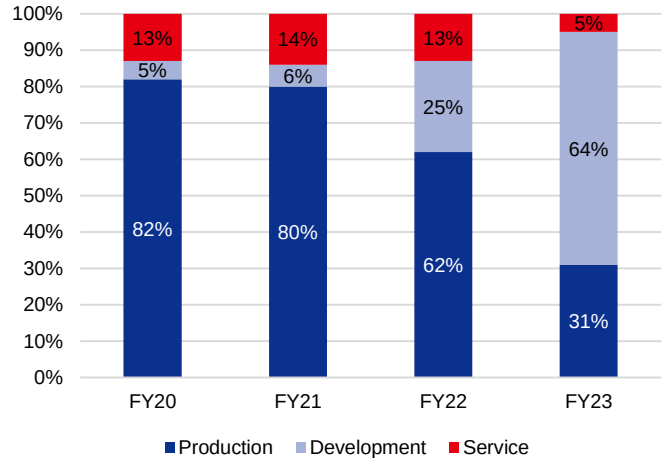
  The order book also includes products that contribute to several indigenous defence programmes, such as the LCA, ALH Dhruv, LUH, and the BrahMos missile programmes.

**Figure 1: Order book history and outlook**




SOURCE: INCRED RESEARCH, COMPANY REPORTS

**Figure 2: Order book (segment-wise)**

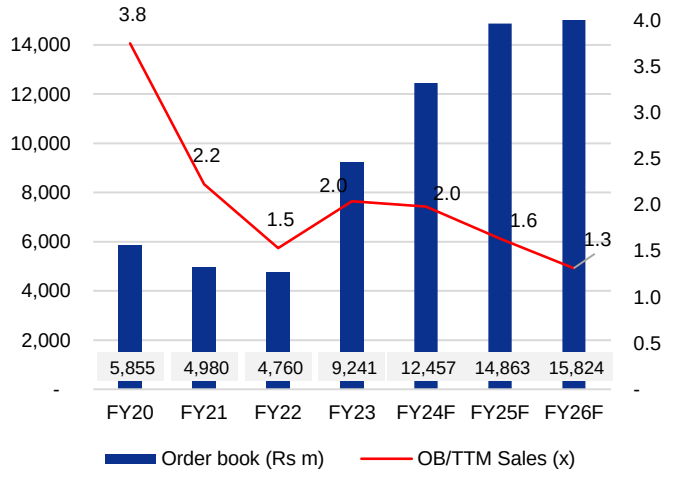



SOURCE: INCRED RESEARCH, COMPANY REPORTS

- **Expects an order inflow of over Rs30bn over FY24F-26F:** Data Patterns is strategically focusing on product development for platform-specific products with recurring needs, positioning itself for significant growth in radar, electronic warfare or EW, communication systems, and satellite business sectors. Anticipating a substantial presence in the market, the company aims to secure contracts worth Rs20-30bn over the next three-to-four years.

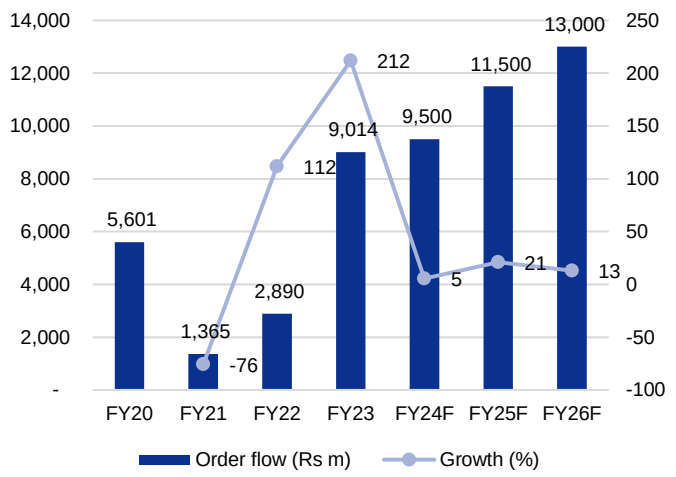
  Additionally, Data Patterns is actively exploring possibilities in the export market and forging partnerships with domestic players to leverage their strengths and expand its reach even further.

**Figure 3: Order book-to-sales ratio (x)**




SOURCE: INCRED RESEARCH, COMPANY REPORTS

**Figure 4: Order inflow and growth**




SOURCE: INCRED RESEARCH, COMPANY REPORTS

**Figure 5: Major orders won in FY23**

| Product | Customer | Order Type | Value (Rs m) |
|---|---|---|---|
| Radar | DRDO | Development | 4,489 |
| Avionics | HAL | Production | 737 |
| EW | DRDO | Development | 530 |
| Tank | DRDO | Development | 345 |
| FCS | Brahmos | Production | 400 |
| | | | **6,501** |

SOURCE: INCRED RESEARCH, COMPANY REPORTS

**Figure 6: Major orders won in 1QFY24**

| Product | Customer | Order Type | Value (Rs m) |
|---|---|---|---|
| EW | DRDO | Development | 362 |
| Radar | Private customer | Production | 357 |
| Radar | Export | Production | 327 |
| EW | DRDO | Development | 137 |
| Underwater | DRDO | Production | 8 |
| Service | DoS | Service | 7 |
| | | | **1198** |

SOURCE: INCRED RESEARCH, COMPANY REPORTS

**Figure 7: Major platforms that use the products developed by Data Patterns**

| Major platforms | Major products supplied |
|---|---|
| Light combat aircraft (LCA) Tejas | Smart standby display unit |
| Light utility helicopter | Cockpit display |
| BrahMos missile programme | Seeker |
| | Fire control system |
| | Mobile autonomous launcher (ground-based) |
| | Airborne launcher to be equipped in Su-30MKI |
| Advanced light helicopter | Avionic systems |
| Dornier aircraft | Airborne ESM |
| | Airborne AESA radar |
| Intermediate jet trainers | Avionic systems |
| Indian Space Research Organisation | Automatic test equipment for testing on-board systems |
| | Tracking radars to track the launches of PSLV/GSLV |
| | Launch countdown system |

SOURCE: INCRED RESEARCH, COMPANY REPORTS

Data Patterns' products are critical components in many important defence projects, such as the launch system for the ground-based BrahMos missile launcher and the flight and safety-critical 'Take me home' display for the LCA Tejas aircraft. The company has been successful in obtaining contracts for these projects, even when competing against other government-owned defence companies and private Indian defence conglomerates.

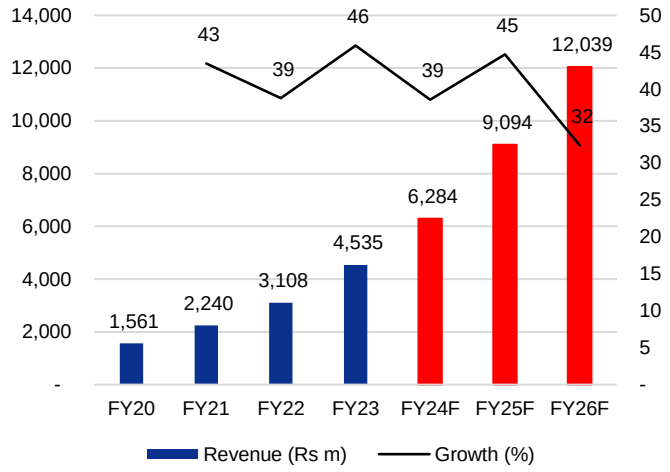
## High growth to sustain as development contracts move into the production phase ➤

- **Repeat and large-volume orders to boost production contracts (66% of FY23 sales):** Data Patterns is a defence electronics company with a strong focus on in-house development and manufacturing. It has a diverse product portfolio, including display systems for LUH and LCA, RWR for fighter aircraft, airborne Elint system for helicopters and UAVs, and seekers for Brahmos missile programme. As of Dec 2022-end, the company had ~40 production contracts worth Rs3.4bn in the order book and expects a revenue CAGR of ~30% from production contracts over FY23-26F.
- **In-house design and development contracts to open new opportunities (29% of FY23 sales):** Data Patterns plans to expand its product portfolio to offer more complex technology-based products. The company currently offers

electronic solutions developed in areas including complex 20+ layer printed circuit boards (PCB) designing, FPGA-based firmware algorithms, device drivers, networking layers, etc. It plans to bid for and participate in higher-value projects that require the use of complex technologies. The company will leverage its strong in-house design and production capabilities to bid for and participate in the tenders for large and complex projects under the Make-in-India program. The company expects a revenue CAGR of ~45% over FY23-26F, given the low base and new development orders. It has 22 development contracts worth Rs5bn in the order book as of Dec 2022-end.

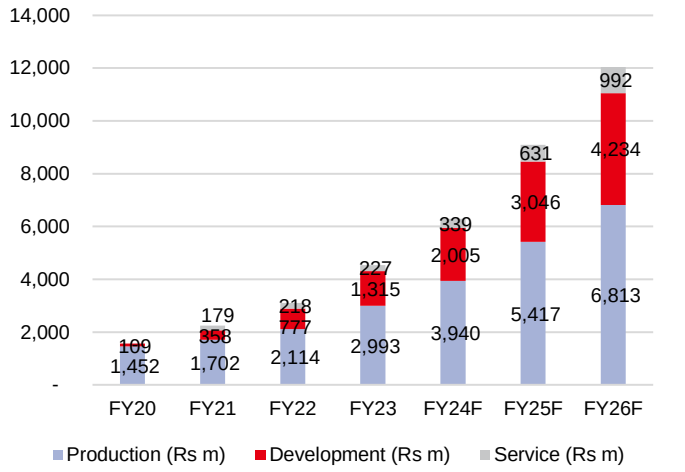
- **Maintenance repair and overhaul opportunities to boost services segment (5% of FY23 sales):** The long life of platforms and products in the defence and aerospace sectors creates significant opportunities for the sale of services. Data Pattens plans to grow its service portfolio to include maintenance, upgrade, and other routine repair services. Revenue from the sale of services was currently driven by AMC contracts, such as with the BrahMos missile program, and service income from major development contracts. Data Patterns has 55 service contracts (including 34 Build-to-Print) worth Rs509m as of Dec 2022-end.

**Figure 8: Data Patterns' historical revenue and outlook**



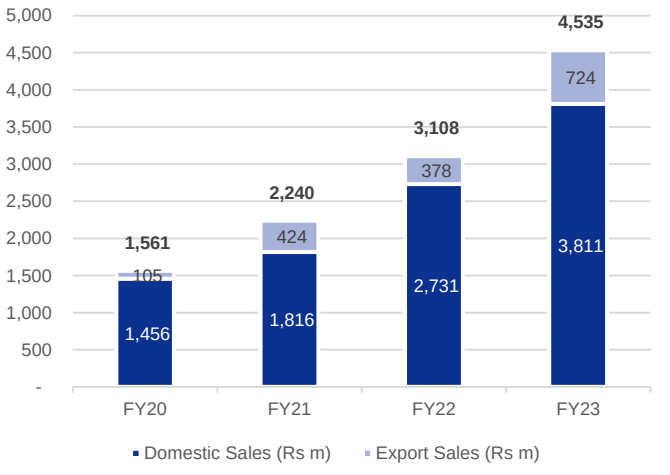

SOURCE: COMPANY REPORTS, INCRED RESEARCH

**Figure 9: Revenue split – production, development, and services**



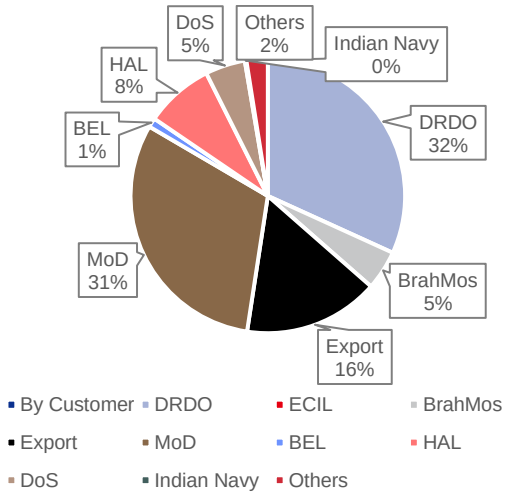

SOURCE: COMPANY REPORTS, INCRED RESEARCH

**Figure 10: Contribution from exports rise from 7% in FY20 to over 16% in FY23**



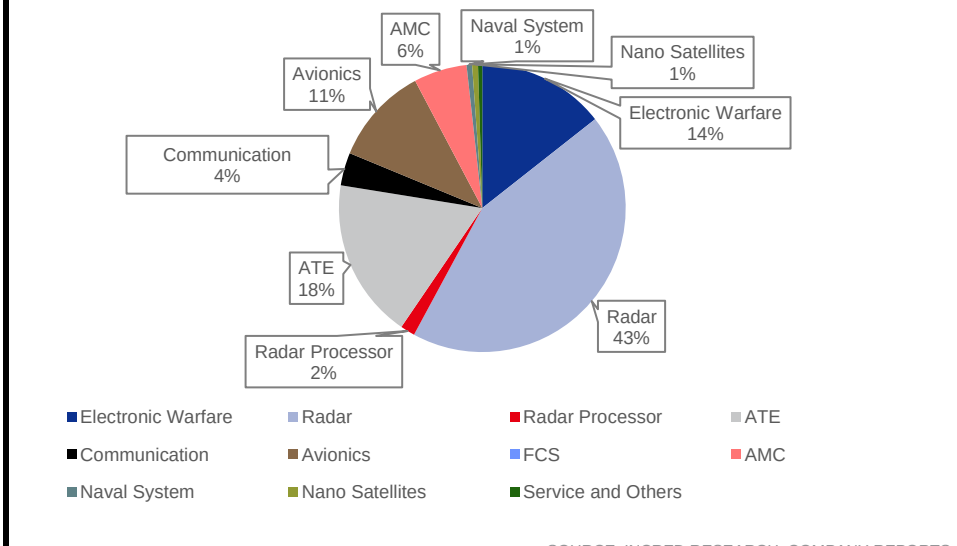

SOURCE: INCRED RESEARCH, COMPANY REPORTS

**Figure 11: Revenue profile - client-wise (FY23)**




SOURCE: INCRED RESEARCH, COMPANY REPORTS

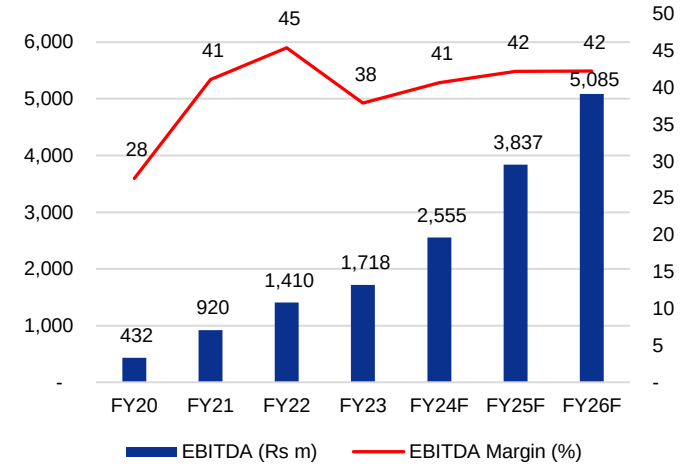
**Figure 12: Revenue profile: product-wise (FY23)**




SOURCE: INCRED RESEARCH, COMPANY REPORTS

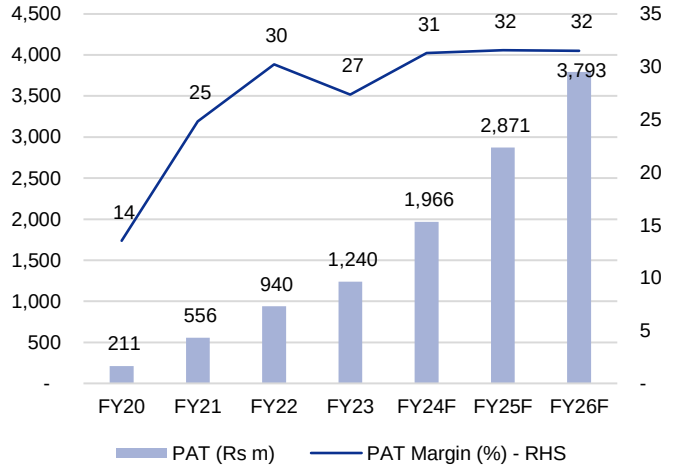
**EBITDA margin to sustain owing to in-house development and production:** Data Patterns has a strong track record of maintaining an EBITDA margin of around 40%. The company expects to continue this trend in the coming years, as it continues to develop new products in-house, expand its total addressable market, and explore export opportunities. We forecast an EBITDA CAGR of 44% over FY23-FY26F, with margins remaining in the 40-45% range. This growth is expected to be driven by an increase in contribution from development contracts and improved execution of production contracts.

**Figure 13: EBITDA and EBITDA margin**




SOURCE: COMPANY REPORTS, INCRED RESEARCH

**Figure 14: PAT and PAT margin**




SOURCE: COMPANY REPORTS, INCRED RESEARCH

## RoCE and RoE were lower in FY23 due to fund infusion via QIP

The return on capital employed (RoCE) and return on equity (RoE) in FY22 were at 25% and 24%, respectively. These high returns were primarily driven by strong PAT margin of 30%. However, RoCE and RoE dipped to 15% and 14%, respectively, in FY23 due to fund infusion from a qualified institutional placement (QIP) in Mar 2023. We expect RoCE and RoE to gradually recover to the 22% level in the next two-to-three years.

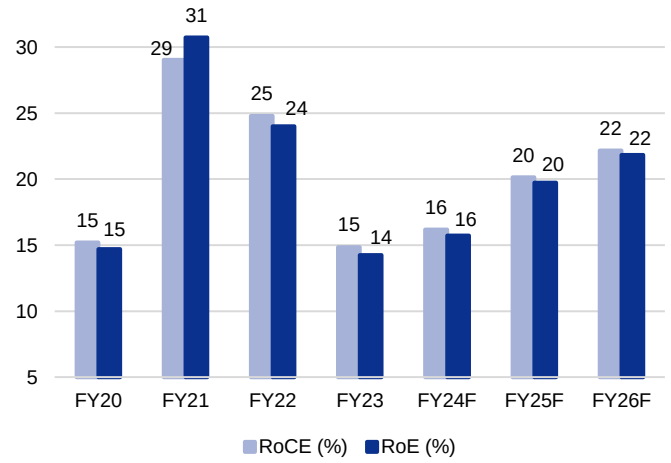
## Net working capital to remain elevated but could improve marginally

Net working capital (NWC) improved from 312 days in FY20 to 255 days in FY22, a decrease of 97 days. This was due to a collective decrease of 97 days in inventory, debtors, and other current assets, and a decrease of 41 days in creditors and other current liabilities.

In FY23, NWC increased to 296 days because of a rise in inventory, debtors, and other current assets to 155 days, 308 days, and 48 days, respectively.

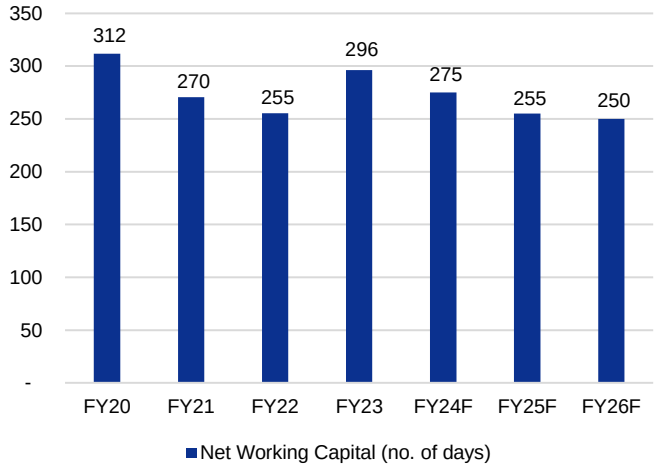
Going ahead, we expect NWC days to improve to 250 days over FY23-26F on the back of better execution of the order book.

**Figure 15: RoCE and RoE are expected to recover to their earlier levels**




SOURCE: COMPANY REPORTS, INCRED RESEARCH

**Figure 16: Net working capital continues to remain elevated**




SOURCE: COMPANY REPORTS, INCRED RESEARCH

**Net working capital is higher on account of higher receivables and inventory, and lower creditors**

**Higher receivables (308 days):** In the development phase, receivables are elongated due to the lengthy acceptance tests, and sometimes it involves integration with other products. The final integration with other products is out of the control of Data Patterns and it generally gets delayed, and in some cases more than 18 months, leaving the receivables skewed. However, during the production phase (repeat contracts) receivables usually get settled in three-to-four months.

**Higher inventory (155 days):** The defence sector typically maintains a large inventory because the products need to be maintained for a long period of time (15-20 years). During the development phase, when only a few pieces are required, companies are forced to purchase additional raw materials due to minimum order quantity requirements. In FY23, to mitigate supply chain disruption, Data Patterns procured the stock ahead of its requirement for smooth and timely execution.

**Lower creditors (35 days):** Most electronic parts are imported from overseas, except China. Due to the lack of volume purchases, suppliers are paid 100% in advance. However, with long-term relationships and increased volume requirements, some regular suppliers grant credit terms of 30-60 days. However, at any given time, the advances to suppliers far exceed the outstanding creditors.

**Data Patterns aims to improve net working capital days by**

- Optimizing quarterly execution and reducing dependency on the fourth quarter for revenue booking.
- Increasing production contracts where collection cycles are better, unlike in the development phase.
- Negotiate better payment terms in single-vendor contracts.
- Re-using existing components in new designs to improve inventory level.
- As the supply chain problems are easing, future procurements will align with the delivery schedule.

**Considering the above factors, Data Patterns is confident of improving its net working capital requirement to ~240 days over the next three-to-five years.**

## IPO/QIP proceeds and its utilization

Data Patterns got listed on the BSE/NSE in Dec 2021 with an initial public offer or IPO of Rs5.9bn, out of which the fresh issue was for Rs2.4bn. Again, in Mar 2023, it raised capital via a qualified institutional placement (QIP). Data Patterns has effectively utilized its IPO proceeds to expand its manufacturing and testing facilities in Chennai and enhance system integration. Additionally, it is making significant investments in cutting-edge products such as satellites, radars, electronic warfare, and communication equipment. Funding for these developments has been successfully raised through QIP.

Data Patterns stated that the defence sector is witnessing strong growth and the government is pushing for its 'Make in India' initiative. Data Patterns wants to be prepared for this growth opportunity, both in terms of manufacturing facilities and product development.

Data Patterns' strategic priorities are set as follows: (1) To concentrate on greater opportunities in radar, electronic warfare, and satellite markets. (2) The company expects to participate in over Rs20-30bn worth of contracts over the next three-to-four years. With these efforts, the company expects to achieve a top-line growth of 25-30% and a sustainable high EBITDA margin in the 40% range.

**Figure 17: New product development plan (Rs m) – as of Mar 2023-end**

| New product development | Amount (Rs m) |
|---|---|
| Satellite for Low Earth Orbit (LEO) | 903 |
| Tracking/Surveillance/Fire Control Radar | 371 |
| Electronic Support Measures (ESM)/Electronic Counter Measures (ECM) Systems | 277 |
| Radio/Communication System (COM Radio) | 121 |

SOURCE: COMPANY REPORTS, INCRED RESEARCH

**The expected implementation schedule for the proposed development of these new products is estimated to be in FY24F and FY25F.**

**Figure 18: Utilization of proceeds received from IPO/QIP (Rs m)**

| Particulars | IPO proceeds (Dec 2021) | QIP proceeds (Mar 2023) | Utilized (Up to Jun 2023) | Unutilized |
|---|---|---|---|---|
| Repayment of borrowings | 601 | 250 | 851 | - |
| Working capital requirement | 952 | 1,680 | 1,759 | 873 |
| Capital expenditure | 598 | 230 | 417 | 411 |
| Research & development | | 1,672 | - | 1,672 |
| General corporate purpose | 663 | 1,045 | 1,542 | 166 |
| **Total** | **2,814** | **4,877** | **4,569** | **3,123** |

SOURCE: COMPANY REPORTS, INCRED RESEARCH

## To double manufacturing facility and infrastructure in three years

Data Patterns invested ~Rs450m in FY23 on a new facility and the facility became operational from Mar 2023. In the next few years, Data Patterns wants to further double its manufacturing space and infrastructure. The company has acquired ~ three acres of land adjoining to the existing facility for the proposed expansion. Expansion will be in the areas of design and development resources, EMS line, material handling, large system integration hangar, radar integration, EW vehicle integration and additional testing facilities. **Data Patterns plans to incur a capex of over Rs1.5bn in the next three years in building these new facilities.**

# SWOT analysis

**Figure 19: SWOT analysis**

| Strengths | Weakness |
|---|---|
| - Robust domain capabilities in radars, electronic warfare, communication Systems, avionics & satellite systems for all platforms (sea, land, air and space).<br>- 100% in-house design and manufacturing capability. | - Uncertain timeline for order inflow.<br>- Extensive gestation development contracts.<br>- Challenging working capital cycle. |
| **Opportunities** | **Threats** |
| - India spends over Rs1tr annually on defence capex, increasing gradually.<br>- Growing participation from the private sector in the defence supply chain on account of government policies like Make in India/Atmanirbhar Bharat initiatives, policy changes in the defence procurement procedure and negative import list.<br>- Strong export potential. | - Delay in commercialization of product development on account of tedious and time-consuming approval process involved.<br>- Global competition.<br>- Possible delay in key government programmes in the space and defence sectors on account of fiscal constraints etc. |

SOURCE: INCRED RESEARCH, COMPANY REPORTS

## Key risks to our investment thesis

- Lower budget allocation for defence means the timeline for order finalization from the strong order pipeline continues to be extended. Hence, risk factors include delay in the finalization of large orders.
- Also, Data Patterns to be impacted by continued strain on its balance sheet due to higher receivables and a further delay in advances for customer orders.
- Long gestation period for large projects - from the request for proposal to execution - would always lead to volatility in earnings.

## Valuation and recommendation

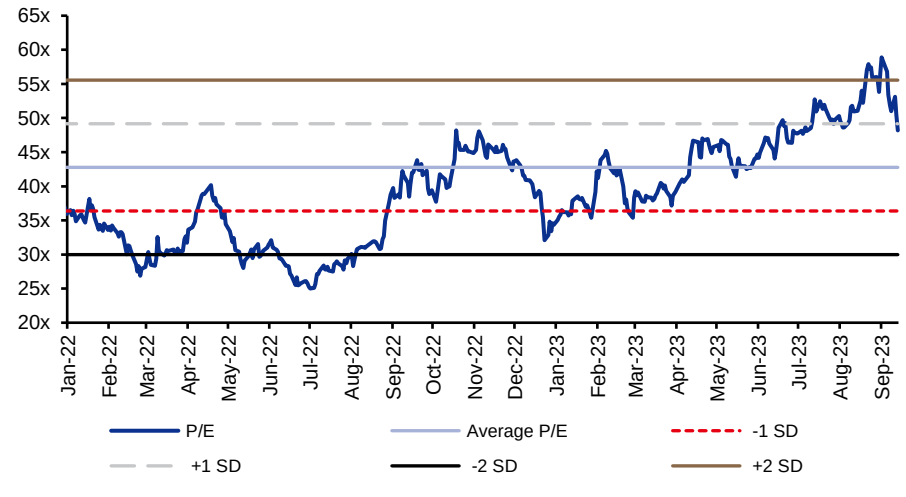
### Robust order pipeline ensures promising revenue growth prospects; stock's P/E expected to trade at a premium ➤

Data Patterns, a defence electronics company, has seen its order book growing at a CAGR of 39% over FY18-23, backed by successful execution in DRDO tenders, defence orders and space projects. Its expertise in radar and EW provides a competitive advantage. The company plans to move from a DRDO-centric model to a proprietary product-development model, while exploring opportunities in the civilian space and scaling up exports.

The stock has traded at a one-year average price-to-earnings (P/E) ratio of 44x. The stock's P/E has expanded due to strong order inflow. Currently, P/E level for the industry remains elevated due to strong order inflow, revenue visibility, and rising valuations of its listed peers. We expect the strong earnings growth momentum to continue on the back of in-house product development and strong execution. The company is also aiming to forge partnerships with foreign original equipment manufacturers (OEMs) to boost its exports and reduce the dependence on government orders to de-risk its business model.

**We initiate coverage of Data Patterns with an ADD rating and a target price of Rs3,000 based on a P/E ratio of 50x for the Sep 2025F year-end earnings.** Data Patterns is trading at a premium to the Indian defence sector companies under our coverage, which has an average P/E of 26x its one-year forward earnings. However, we believe the company's premium valuation (relative to defence public sector undertakings or DPSUs) will sustain because of its strong return ratios and revenue visibility, which is supported by a healthy order backlog, the maturing of development contracts into production contracts, and its experienced management. We have used the P/E ratio as the standard methodology for valuing all defence stocks under our coverage universe.

**Figure 20: Data Patterns trades slightly below +1 SD level**




SOURCE: INCRED RESEARCH, COMPANY REPORTS, BLOOMBERG

**Figure 21: Defence and aerospace industry - peer comparison**

| Company Name | Bloomberg Ticker | Rating | Closing Price | Target Price | Mkt Cap | P/E (x) | | P/BV (x) | | ROE (%) | | EPS CAGR (%) | PEG Ratio* (x) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Local Currency | (Rs) | US$ bn | FY24F | FY25F | FY24F | FY25F | FY24F | FY25F | FY23-FY26F | |
| **Indian companies** | | | | | | | | | | | | | |
| Bharat Electronics | BHE IN | ADD | 136 | 140 | 12.0 | 28.9 | 23.9 | 6.4 | 5.6 | 22.2 | 23.4 | 17.1 | 1.4 |
| Hindustan Aeronautics | HNAL IN | ADD | 3,972 | 5,000 | 16.0 | 26.2 | 21.9 | 4.9 | 4.2 | 18.7 | 19.3 | 18.8 | 1.2 |
| Bharat Dynamics | BDL IN | ADD | 1,076 | 1,300 | 2.4 | 32.7 | 22.5 | 5.2 | 4.4 | 15.9 | 19.5 | 46.6 | 0.5 |
| Data Patterns | DATAPATT IN | ADD | 2,045 | 3,000 | 1.4 | 58.3 | 39.9 | 6.5 | 5.5 | 15.7 | 19.7 | 42.0 | 0.9 |
| Astra Microwave Products | ASTM IN | NR | 400 | NR | 0.5 | 27.8 | 21.6 | 4.6 | 3.8 | 16.6 | 17.8 | 30.9 | 0.7 |
| Mishra Dhatu Nigam | MTARTECH IN | NR | 405 | NR | 0.9 | 42.4 | 32.6 | 5.3 | 4.8 | 12.6 | 14.8 | 14.4 | 2.3 |
| Bharat Forge | MIDHANI IN | NR | 1,083 | NR | 6.1 | 40.2 | 29.7 | 6.5 | 5.6 | 16.1 | 18.7 | 40.5 | 0.7 |
| Larsen & Toubro | BHFC IN | NR | 2,913 | NR | 49.3 | 31.2 | 25.1 | 4.2 | 3.7 | 13.5 | 14.9 | 21.4 | 1.2 |
| Solar Industries | LT IN | NR | 4,522 | NR | 4.9 | 44.7 | 37.0 | 12.1 | 9.4 | 27.2 | 25.5 | 26.7 | 1.4 |
| MTAR Technologies | SOIL IN | NR | 2,637 | NR | 1.0 | 52.9 | 39.0 | 10.7 | 8.6 | 20.3 | 22.1 | 38.9 | 1.0 |
| **US Companies** | | | | | | | | | | | | | |
| Boeing | BA US | NR | 211 | NR | 127.1 | (82.4) | 38.6 | (8.1) | (10.6) | 9.9 | (27.4) | NA | NA |
| Lockheed Martin | LMT US | NR | 418 | NR | 105.2 | 15.4 | 14.9 | 12.1 | 12.0 | 78.5 | 81.0 | 9.8 | 1.5 |
| Raytheon | RTX US | NR | 76 | NR | 110.0 | 15.1 | 13.9 | 1.5 | 1.5 | 10.1 | 11.1 | 11.9 | 1.2 |
| Northrop Grumman | NOC US | NR | 424 | NR | 64.2 | 18.7 | 17.2 | 4.0 | 3.8 | 21.6 | 22.4 | 4.3 | 4.0 |
| General Dynamics | GD US | NR | 217 | NR | 59.4 | 17.2 | 14.6 | 3.0 | 2.7 | 17.2 | 18.8 | 10.1 | 1.4 |
| **European companies** | | | | | | | | | | | | | |
| Airbus Group | AIR FP | NR | 130 | NR | 110.3 | 23.1 | 18.8 | 6.4 | 5.2 | 27.7 | 27.7 | 20.9 | 0.9 |
| Safran | SAF FP | NR | 149 | NR | 68.1 | 28.7 | 22.6 | 5.9 | 5.2 | 20.5 | 23.1 | 29.5 | 0.8 |
| SAAB AB | SAABB SS | NR | 601 | NR | 86.2 | 25.8 | 21.4 | 2.5 | 2.3 | 9.7 | 10.6 | 28.1 | 0.8 |
| Kongsberg | KOG NO | NR | 470 | NR | 88.7 | 23.5 | 20.3 | 5.3 | 4.9 | 22.6 | 24.1 | 19.8 | 1.0 |
| Thales | HO FP | NR | 140 | NR | 31.6 | 17.8 | 16.1 | 3.8 | 3.4 | 21.2 | 21.2 | 10.2 | 1.6 |
| BAE Systems | BA/ LN | NR | 10 | NR | 39.8 | 16.9 | 15.7 | 2.8 | 2.6 | 16.3 | 16.4 | 10.5 | 1.5 |
| Dassault Aviation | AM FP | NR | 180 | NR | 15.6 | 16.9 | 14.8 | 2.3 | 2.1 | 13.6 | 14.1 | 20.8 | 0.7 |
| Leonardo Finmeccanica | LDO IM | NR | 14 | NR | 8.5 | 11.2 | 9.7 | 1.0 | 0.9 | 9.2 | 9.8 | 9.9 | 1.0 |
| **Median** | | | | | | **25.8** | **21.6** | **4.9** | **4.2** | **16.6** | **18.8** | **20.3** | **1.1** |
| **Median (Indian companies)** | | | | | | **36.5** | **27.4** | **5.9** | **5.2** | **16.3** | **19.0** | **28.8** | **1.1** |
| **Median (US & Europe))** | | | | | | **17.2** | **16.1** | **3.0** | **2.7** | **17.2** | **18.8** | **11.2** | **1.1** |

SOURCE: INCRED RESEARCH, COMPANY REPORTS, BLOOMBERG
NOTE: *PEG RATIO = P/E (FY25F) / EPS CAGR (FY23-FY26F)

**Figure 22: Normalized order book-to-sales ratio of Indian defence companies (FY23)**

| Company name | Order book (Rs bn) | Sales (Rs bn) | Reported OB/sales (x) | Estimated average execution period (yrs.) | Normalized OB/sales (x) |
|---|---|---|---|---|---|
| Bharat Electronics | 607 | 176 | 3.4 | 1.8 | 1.9 |
| Hindustan Aeronautics | 818 | 269 | 3.0 | 3.0 | 1.0 |
| Bharat Dynamics | 240 | 25 | 9.6 | 2.5 | 3.9 |
| Data Patterns | 9 | 5 | 2.0 | 1.5 | 1.4 |
| Astra Microwave Products | 15 | 8 | 1.9 | 1.5 | 1.3 |
| Mishra Dhatu Nigam | 13 | 9 | 1.5 | 1.3 | 1.2 |

SOURCE: INCRED RESEARCH, COMPANY REPORTS
NOTE: NORMALIZED OB/SALES = OB / SALES / EST. AVG. EXECUTION PERIOD

## Corporate actions »

**Figure 23: Corporate actions**

| Date | Description |
|---|---|
| 1985 | Started Data Patterns using personal computers in non-data processing applications |
| Nov-98 | Incorporated as Indus Teqsite Pvt Ltd. |
| Aug-21 | Changed to Data Patterns (India) Pvt Ltd. |
| Dec-21 | Listed on NSE and BSE (Face Value – Rs 2) |
| Aug-22 | Final dividend (FY22) - Rs3.5 per share |
| Aug-23 | Final dividend (FY23) - Rs4.5 per share |

SOURCE: INCRED RESEARCH, COMPANY REPORTS

**Dividend history and payout**: Data Patterns has announced a final dividend of Rs3.5/Rs4.5 for FY22/FY23, respectively, which translates to ~20% dividend payout. Total dividend outflow for FY22/FY23 stood at Rs160m and Rs191m, respectively. We believe Data Patterns will continue to maintain a similar dividend payout of ~20% going ahead as well.

**Figure 24: Shareholding pattern (as of Mar 2023-end)**

| Category | Holding (%) |
|---|---|
| Promoter | 42% |
| Mutual Funds | 9% |
| Insurance Companies | 2% |
| Foreign Portfolio Investors | 5% |
| Directors | 3% |
| Key Managerial Personnel | 5% |
| Resident Individuals | 20% |
| LLP | 11% |
| Others | 4% |
| **Total** | **100%** |

SOURCE: INCRED RESEARCH, COMPANY REPORTS

## About Data Patterns »

Data Patterns is a vertically integrated defence and aerospace electronics solutions provider headquartered in Chennai, India. The company has over 1,100 employees, including more than 700 qualified engineers. Data Patterns has been in the business for over 35 years and has supplied products to all the major platforms in the defence and aerospace industries, including the LCA Tejas, Light Utility Helicopter, and BrahMos missile.

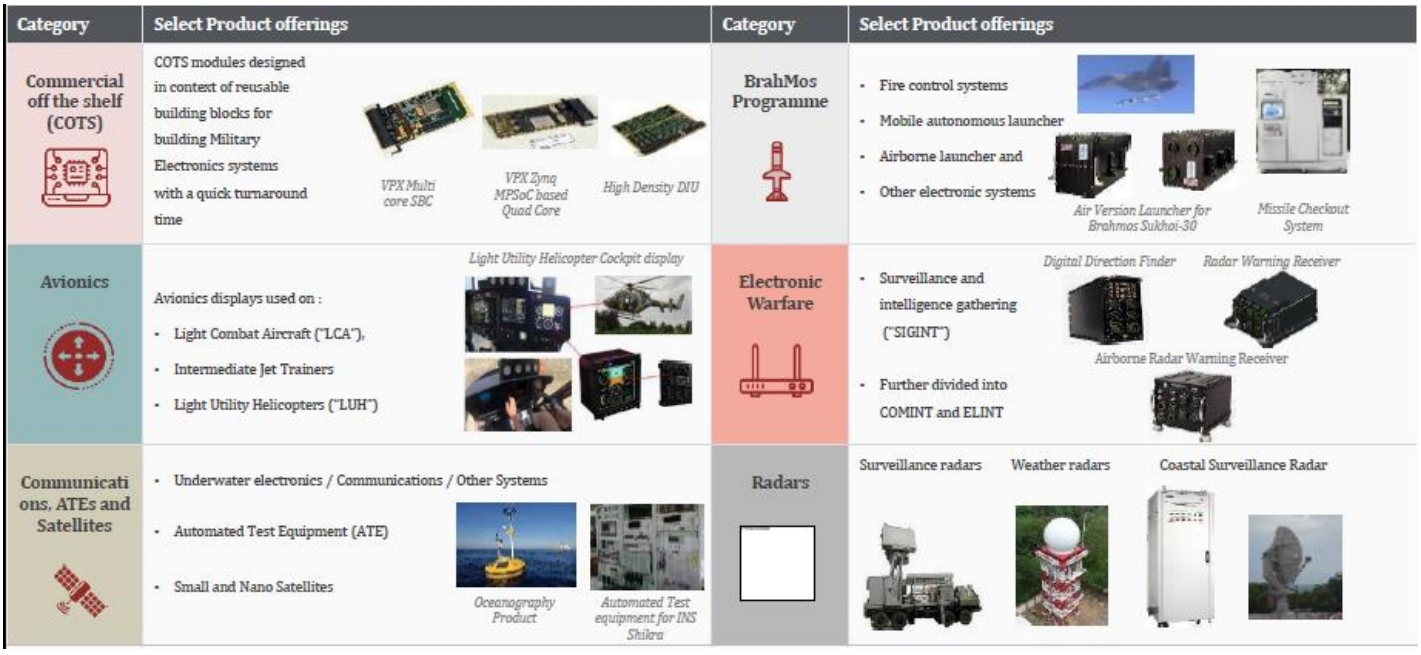
Data Patterns has a strong focus on in-house development and manufacturing and is led by innovation and design and development efforts. The company has a diversified order book with marquee customers, and state-of-the-art manufacturing facilities. Data Patterns' capabilities across the spectrum of defence and aerospace electronics solutions - from design to delivery - provides it a significant competitive advantage in terms of overall development time and cost when bidding for projects.

Data Patterns is well positioned for future growth, with a strong order book and a growing addressable market. The company is also committed to innovation and is constantly developing new products and services to meet the needs of its customers.

## Product portfolio »

Data Patterns' major product verticals comprise (1) radars, (2) satellites, (3) electronic surveillance & monitoring equipment, and (4) communication systems.

**Figure 25: Diverse product offerings**




SOURCE: INCRED RESEARCH, COMPANY REPORTS

**Figure 26: Product capability comparison of major Indian defence sector stakeholders**


SOURCE: INCRED RESEARCH, COMPANY REPORTS, DATA PATTERNS DRHP

Data Patterns has over 35 years of experience in the defence and aerospace industry. Initially, it focused on developing its in-house capabilities with end-to-end design capabilities. The company has developed multiple products over the years and its primary market has been development contracts through the DRDO, which can eventually translate into production contracts. Going ahead, Data Patterns could develop its own proprietary products so that it can also focus on addressing the demands from civilians and the export market. Along with production contracts, Data Patterns also expects huge opportunities to unlock in the services model as well.

**Data Patterns' marquee customers in the Indian defence and aerospace ecosystem:** Ministry of Defence (MoD), Defence Research and Development Organisation (DRDO), Indian Space Research Organisation (ISRO), BrahMos Aerospace Pvt Ltd, Bharat Electronics (BEL), Hindustan Aeronautics (HAL), etc.

## Key management personnel »

**Figure 27: Brief profile of key management personnel**

| Name | Designation | Brief profile |
|---|---|---|
| Mr. Srinivasagopalan Rangarajan | Promoter,<br>Chairman & Managing Director | He has over three decades of experience in business development, corporate affairs, finance and marketing. He has a Chemical Engineering degree from University of Madras and M.S degree from IIT, Chennai. Founded Data Patterns in 1985 |
| Mrs. Rekha Murty Rangarajan | Promoter<br>Whole-time Director | She has over three decades of experience in administration, facility maintenance, HRD, process engineering and special projects. She has completed her B.A from Bangalore University and M.A in applied psychology from Madras University. |
| Mr. Desingurajan P | Chief Technology Officer | He is an Electronics Engineer. Spearheaded product development for over 30 years and currently heads and oversees complete design, development and validation of Data Patterns. He has been associated with Data Patterns for over 30 years. |
| Mr. Vijay Ananth K | Chief Operating Officer<br>Chief Information Security Officer | He has over two decades of experience in software engineering and product management. He has a BCS degree from Manomanian Sundaranar University and a master's degree in computer applications from the University of Madras. He has been associated with Data Patterns for over 20 years. |
| Mr. Thomas Mathuram Susikaran | Sr. Vice President<br>(Business Development) | He has over 21 years of experience in business development and marketing He has a B.E degree from Madurai Kamaraj University and a M. Tech degree in electrical engineering from IIT, Chennai. He has been associated with Data Patterns for over 20 years. |
| Mr. Venkata Subramanian Venkatachalam | Chief Financial Officer | He has over two decades of experience in the finance sector. He is a B.Com graduate from Madurai Kamaraj University and a Member of ICAI. He joined Data Patterns in 2000 to build the accounts and treasury department. |

SOURCE: INCRED RESEARCH, COMPANY REPORTS

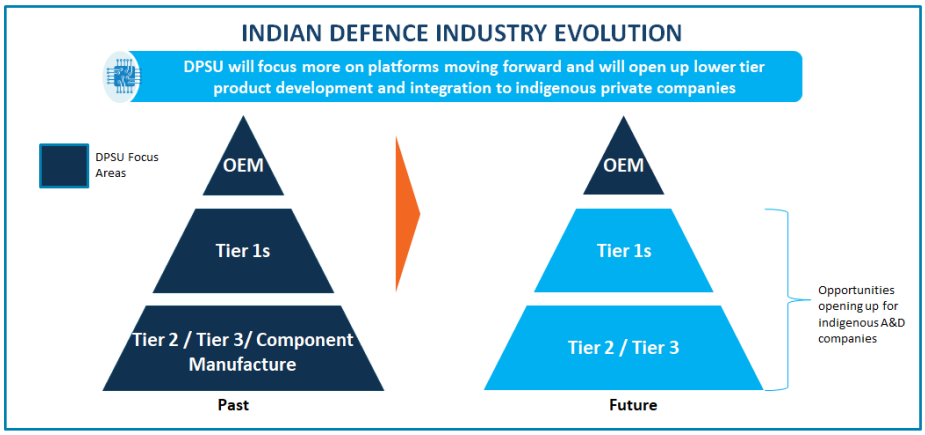
# Industry overview – electronic systems

## Increased private sector participation

The Indian defence industry is at an inflection point, with increased private sector participation being the way forward.

The evolution of private defence industry has also been aided by a shift of the DPSUs' stance from being present in the entire supply chain to focusing on integration and assembly.

**Figure 28: Opportunities opening for private sector companies**




SOURCE: INCRED RESEARCH, COMPANY REPORTS

The Indian government is seeking to build greater self-reliance in Indian defence R&D and manufacturing through a combination of the Aatmanirbhar Bharat mission, DAP 2020, Offsets and the upcoming Defence Production and Exports Policy.

## Aatmanirbhar Bharat

Aatmanirbhar Bharat envisions promoting policies and regulations that lead to self-sustainment in key areas of industry, including defence, through a wide raft of new measures including a Defence Production and Export Policy and import protection.

**Figure 29: Major measures under 'Aatmanirbhar Bharat' initiative in the defence sector**

| | |
|---|---|
| Negaive Import list | To incentivise domestic production and limit imports, the Defence Ministry has banned the import of 209 defence related equipment/ components. Equipment covered includes segments such as electronic warfare, sensors, radars, Unmanned Aerial Systems etc. |
| Positive Indigenization list | It is a list of defence equipment that will only be procured from domestic sources. Four lists have been released so far and they collectively contain over 2,000 items that are set to be indigenised within specific timelines. |
| Budget allocation | An outlay of Rs1tr has been earmarked for domestic procurement in FY24F in order to mitigate procurement delays stemming from non-availability of capital. |
| Corporatisation of Ordnance Factory Board (OFBs) | The government aims to corporatize OFBs in a bid to improve production efficiency and transparency. There are 41 ordnance factories in India, which source components from Tier 2 and Tier 3 suppliers. |
| Foreign Direct Investment (FDI) | The FDI limit under the automatic route has been increased from 49% to 74%. The increase will encourage foreign manufacturers to invest in India with confidence as they will have a controlling stake in a joint venture. |

SOURCE: INCRED RESEARCH, COMPANY REPORTS

## Defence Acquisition Policy (DAP 2020)

It aims to improve indigenous manufacturing, streamline procurement processes, and introduce innovation-oriented clauses to further prototype development in India. Other new measures include incentivising foreign OEMs and service providers to set up their own manufacturing/MRO facilities and a specialized category for leasing of equipment, which could potentially speed up capability acquisition.

**Figure 30: Capital acquisition categories in DAP 2020 – Buy category**

| | |
|---|---|
| Buy (Indian-IDDM) - [Priority 1] | •Indigenously designed developed manufactured and Procured from an Indian vendor. (minimum 50% Indigenous Content or IC (cost basis) |
| Buy (Indian) - [Priority 2] | •Procurement from an Indian vendor products that have been indigenously designed, developed and manufactured (minimum 50% indigenous content) **OR** products having 60% indigenous content. |
| Buy and Make (Indian) - [Priority 3] | •Procurement of fully formed equipment from an Indian vendor with a tie-up with a foreign OEM, followed by indigenous production with ToT of critical technologies. Minimum of 50% IC in the "Make" component. |
| Buy (Global-Mfg in India) - [Priority 4] | •Outright purchase of equipment from a foreign vendor with a minimum of 50% IC (without ToT), which can be achieved through the manufacturing of the entire equipment, spares, assemblies, subassemblies, or MRO facility in India. |
| Buy (Global) - [Priority 5] | •Purchase of equipment from foreign or Indian vendors. Indian vendors - minimum 30% IC, otherwise offset discharge is mandatory. Foreign vendors must discharge offsets in all Buy (Global) cases over US$268m (excl. Single Vendor Cases or SVC) being progressed based on Inter-governmental Agreements (IGAs) including FMS. |

SOURCE: INCRED RESEARCH, COMPANY REPORTS

The top-3 capital acquisition categories – Buy (IDDM), Buy (Indian) and Buy and Make (Indian) emphasis on Indian companies-led defence modernization, with an IC category of at least 50%.

In the coming years, it is expected that several high-value tenders will be awarded under these categories, providing both private Indian defence prime and sub-system suppliers with opportunities to increase the revenue and technology base.

**Figure 31: Capital acquisition categories in DAP 2020 – Make category and strategic partnership model**

| | |
|---|---|
| Make 1 - Government funded | •The government will provide funding of up to Rs2.5bn (70% of the cost) for prototype development to the developing agency |
| Make 2 - Industry funded | •Funding for design, development and innovation has to be borne by the Indian vendor |
| Make 3 | •Equipment under this category can be manufactured in India, even if it was not designed or developed in India. This category is useful for replenishing inventory or for providing product support. |
| Innovations for Defence Excellence (iDEX) | •Pursue projects of low capital investment but high innovation from start-ups and MSMEs. The final product will be procured through the Buy-IDDM mechanism. |
| Technology Development Fund Scheme (TDF) | •Projects will be similar to iDEX, but funding will be routed through DRDO. The scheme is envisaged to improve private-public partnership |
| Indigenous Development by services through Internal Organisations | •Encourages the armed forces to develop new defence equipment prototypes through their internal R&D agencies. |
| Strategic Partnership Model | •Allows private Indian firms to partner with foreign OEMs to produce defence equipment in India. Strategic Partnerships will build an extensive ecosystem of development partners, specialized vendors, and suppliers, particularly from the MSME sector. |

SOURCE: INCRED RESEARCH, COMPANY REPORTS

## Defence offsets

India has been pursuing defence offsets since 2005, but earlier policies lacked emphasis on transferring technology and R&D capabilities to Indian defence companies. The Defence Acquisition Policy (DAP) 2020 aims to address this by shifting the focus to 'technology investments' and 'export of platforms' instead of just 'components'.

DAP 2020 has expanded avenues for offsets, allowing foreign entities to receive credit for transferring critical technologies to the Indian industry.

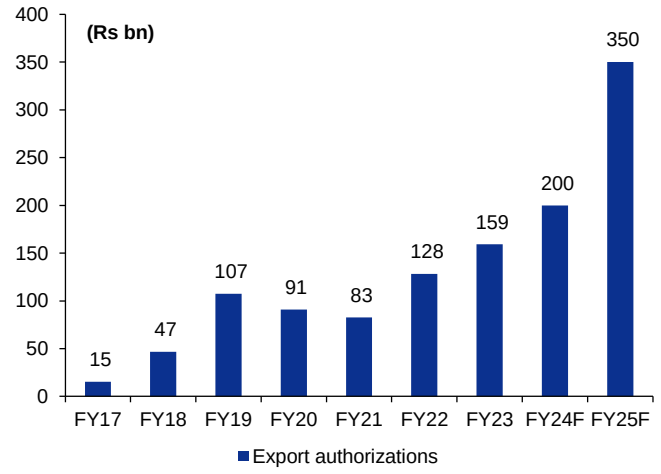
However, certain technologies like hypersonic flight and electromagnetic rail guns are reserved for DPSUs and the DRDO. Most defence equipment technologies are now open to private players.

## Defence Production and Export Policy 2020

The Defence Production and Export Policy (DPEPP) 2020 is a significant stride towards Aatmanirbhar Bharat, seeking to double India's aerospace and defence industry in just five years. The policy sets a target of achieving an industry turnover of US$25bn, including exports worth US$5bn, by 2025F.

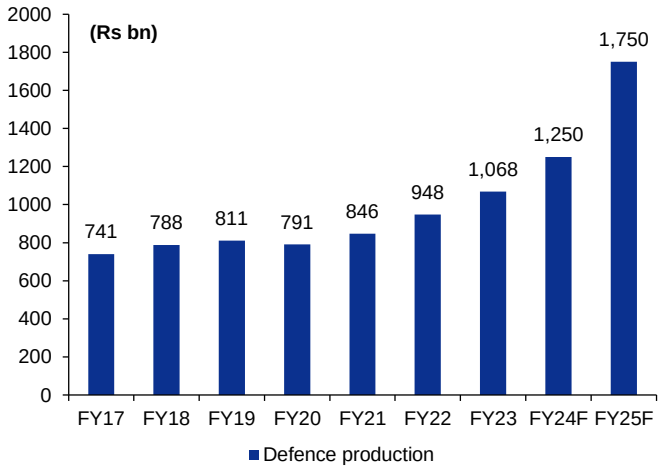
The DPEPP 2020 provides a number of incentives for domestic defence manufacturing, including capital subsidy, interest rate subsidy, tax breaks, duty exemptions, and procurement preferences. The policy also provides for the establishment of defence industrial corridors and technology hubs.

**Figure 32: To achieve US$5bn target set by the Indian government in 2020, defence exports will have to grow at a steep ~45% CAGR**




SOURCE: INCRED RESEARCH, COMPANY REPORTS

**Figure 33: As per government estimate, defence production is expected to grow at ~25% CAGR to meet the target of Rs1.7tr**




SOURCE: INCRED RESEARCH, COMPANY REPORTS
NOTE: FY24 AND FY25 ARE ESTIMATES DERIVED FROM GOVERNMENT SET TARGETS

## Recent trends in the defence sector

The proliferation of unmanned systems, the growing emphasis on C4ISR (Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance), electronic warfare (EW), the utilization of military commercial off-the-shelf (COTS) equipment, and artificial intelligence or AI in the defence sector are all the factors that are shaping the modern battlefield. Considering these developments, private companies like Data Patterns, Paras Defence, Astra Microwave Products, etc., with their exclusive portfolio dedicated to these segments, are poised to seize substantial opportunities in the future.

## Growth of unmanned solutions

Unmanned solutions are increasingly prevalent in military operations worldwide, with countries adopting them for various missions such as Intelligence, Surveillance, and Reconnaissance (ISR), search and destroy, and electronic warfare (EW). Notably, Turkey and the Philippines have successfully employed unmanned aerial systems (UAS) for strike missions. Key players in this field include the US, China, Germany, Israel, and Canada.

The Indian Armed Forces are also expanding their inventory and considering the acquisition of MQ-9 Predator UAS. As India progresses, they need to develop their own unmanned solutions to enhance capabilities at a lower cost. This trend offers opportunities for Indian defence companies to cater to the demand for sub-systems, impacting procurement dynamics and favouring Tier-1, Tier-2, and Tier-3 companies, with a focus on smaller tactical unmanned aerial systems.

## New standards in C4ISR and Network Centric Warfare

C4ISR (Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance) and NCW (Network Centric Warfare) are increasingly important in warfare, as they provide enhanced situational awareness

and decision-making capabilities. Both developing and developed economies are investing in these technologies.

India has been upgrading its C4ISR capabilities through a combination of foreign and domestic procurement. After 2025F, when India reduces equipment obsolescence, it is expected to rapidly adopt C4ISR and network equipment.

The Indian armed forces are also developing integrated joint C5ISR infrastructure to fill in the existing gaps in their capabilities. The politically delicate situation of the disputed Indian borders is also expected to drive demand for C5ISR technology.

Most of India's C5ISR requirements will be met through the indigenous industry, as Indian companies have the capability to build bespoke C4ISR solutions.

## Advances in electronic warfare (EW)

As global forces become more networked, spectrum-denial is becoming increasingly important as a high-reward capability that can blind and overwhelm the enemy's operations. Threat levels are elevated today because adversaries have much better missile guidance and EW technology than a decade ago.

To improve effectiveness, most EW and Electronic Counter Measures (ECM) solutions need to be built bespoke to an operator's specifications and requirements. As a result, Indian defence stakeholders are turning more to the indigenous industry. Indian defence component manufacturers are already embedded in the supply chains of Israeli and European defence majors that make EW solutions.

As the role of Indian defence public sector units (DPSUs) shifts towards platform development and system integration, even more opportunities in the domain are expected to go to the Indian private defence industry.

## Commercial off-the-shelf components are replacing bespoke components

Commercial off-the-shelf (COTS) components are replacing bespoke components in defence equipment. Major powers around the world are recognizing the advantages of COTS, such as faster upgrades, plug-and-play compatibility, and lower costs.

Modified COTS systems with optimized costs and advanced technologies are poised to be used in complex military applications. The impact of the Covid-19 pandemic and the geopolitical situation has made it imperative in recent years to diversify the supply chain for both military and commercial usage of COTS.

In India, a new version of the procurement manual of DRDO has been unveiled featuring simplified procedures for involvement of the private sector in various research and development projects. The measures include exemption of bid security and performance security of up to Rs1m and not having negotiations for COTS items. There is a continuous requirement for COTS equipment for surveillance & communication, soldier protection solution and various security-related platforms.

## Hypersonic missiles

India successfully tested its indigenously designed Hypersonic Technology Demonstrator Vehicle (HSTDV) on 27 Jan 2023. The test was conducted from the Integrated Test Range (ITR) at Chandipur, off the coast of Odisha.

The HSTDV is a scramjet-powered vehicle that can travel at speeds of up to Mach 6. It is a critical step towards developing hypersonic weapons, which can travel at speeds of up to Mach 25. Hypersonic weapons are difficult to intercept and can carry nuclear or conventional payloads.

India is the fourth country after the US, Russia and China to successfully test a hypersonic vehicle. The DRDO has conducted three previous tests of the HSTDV, in 2019, 2020, and 2021. The successful test of the HSTDV is a major milestone in India's quest to develop hypersonic weapons. The HSTDV is expected to be operational in the next three to four years.

## Artificial intelligence in military applications

Artificial intelligence (AI) is rapidly becoming a key area of investment for militaries around the world. In 2019, the US Defence Department unveiled its initial AI strategy, which calls for the development of AI systems and technology to improve military capabilities in areas such as target identification, logistics, and cyber security. Other countries, such as China and Russia, are also investing heavily in AI for military applications.

The use of AI in military applications is likely to continue to grow in the coming years. As AI technology continues to develop, it will become increasingly possible to use AI to improve military capabilities and to develop new and innovative ways to fight wars.

During the Ministry of Defence's inaugural 'AI in Defence' conference in New Delhi recently, 75 newly created AI products were introduced. These products span various categories, including AI Platform Automation, Autonomous/ Unmanned/ Robotics Systems, Blockchain-based Automation, C4ISR, Cybersecurity, Intelligent Monitoring Systems, Lethal Autonomous Weapon Systems, Logistics and Supply Chain Management, Operational Data Analytics, and Speech/Voice Analysis using Natural Language Processing.

## India's defence modernization program

The Indian forces experienced a significant decline in their offensive capabilities due to the delay in modernization. Given the escalating geopolitical situation in the Indian subcontinent, there is a need for process improvement and industry-driven mechanisms to expedite defence procurement. Most of the modernization programs either rely heavily on indigenous resources or aim to incorporate a substantial indigenous component, which will foster indigenous growth. The DRDO serves as the primary agency responsible for developing indigenous programs. Private companies like Data Patterns, which meet the requirements of DRDO for its developmental program, gain a competitive advantage by becoming the preferred and often exclusive supplier as the program transitions into the production stage.

**Figure 34: Indian Air Force's (IAF) modernization program**

| IAF Programs | Description | Effect on industry |
|---|---|---|
| Counter Unmanned Aircraft Systems (C-UAS) | - C-UAS designed to protect IAF assets from hostile unmanned aircraft systems.<br>- MoD intends to acquire 100-200 C-UAS and associated tools, with the goal of completing the full delivery within 12-18 months from the signing of contract. | - BEL - Drone Guard System<br>- DRDO / BEL - D4 Drone System<br>- Other players - Adani Defence System, Defsys, Zen Technologies etc |
| Mobile Communication Terminals (MCT) | - In network-centric warfare, different electronic warfare systems must operate as a unified unit under the centralized command and control.<br>- MoD plans to procure 12 Light Specialist Vehicle (MCT), ~60 Mobile Suitcase Satellite Terminals (MSST) and related equipment. Full delivery is expected within 12 months from the signing of contract. | Data Patterns, Paras Defence, and Mahindra Defence Systems are the three key players who are poised to benefit from this RFP. |
| Advanced Medium Combat Aircraft (AMCA) | - HAL AMCA is a fifth-generation fighter aircraft program led by DRDO.<br>- It is expected to include a private industry participant and will involve four prototypes, with the first flight planned for 2025F. | - AMCA could be a JV with the private sector. This is expected to benefit the entire supply chain and enhance domestic industry capability.<br>- Avionics market players like Data Patterns, Paras Defence, and Mahindra Systems are likely to benefit from this opportunity. |
| Multi Role Fighter Aircraft (MRFA) | - India has issued RFI for procuring 110 fighter aircraft.<br>- Six major firms interested are: Boeing (F18 and F15), Dassault (Rafale), Lockheed Martin (F21), Saab (Gripen), Eurofighter (Typhoon), and Russia (MiG-35). | Indigenous companies like Data Patterns, L&T, Tata Advanced Systems are likely to have significant revenue opportunities. |
| Light Combat Aircraft (LCA) Tejas Mk1A and Mk 2 | - In addition to initial order of 40 LCA Tejas Mk1, Cabinet Committee on Security (CCS) has cleared the purchase of 83 LCA Mk1A (Rs480bn) from HAL.<br>- After acquisition of 83 LCA Mk1A, MoD will procure ~80 LCA Mk2 and could place an additional order of another 50 LCA Mk1A. | - IAF plans to procure 324 aircraft.<br>- ~16 countries have expressed their interest to procure this platform.<br>- Engines are expected to be manufactured in India in the next two years.<br>- Private companies (Data Patterns, Apollo Microsystems, etc.), which are part of LCA Tejas supply chain, will have increased revenue opportunities as future variants will have higher indigenous content. |
| MiG-29 and Su-30 MKI | In Jul 2020, Defence Acquisition Council (DAC) had approved a proposal to procure 21 MiG-29, 12 Su-30 MKI and upgrade 59 MiG-29s (Rs181bn). | - The initial impact for private companies is low.<br>- Future upgrades programs will likely involve players like Paras Defence & Space, Data Patterns, etc. |
| Airborne Early Warning and Control (AEW&C) | - IAF currently operates just 6 IL-76 aircraft equipped with Phalcon radar and DRDO netra.<br>- DRDO was cleared to modify 6 A320s for AEW role (US$1.5bn). | - Will benefit a host of supply chain constituents<br>- Data Patterns is a supplier of Radar Warning Receiver (RWR) for AEW&C on a single-vendor basis |
| Trainer Aircraft | IAF to induct 106 HTT-40 aircraft (US$1.1bn) manufactured by HAL. | - Private industry will benefit from in-house manufacturing<br>- Avionics market players like Data Patterns, Paras Defence, and Mahindra Defence Systems are likely to benefit from this opportunity. |
| Transport Aircraft | - A Tata - Airbus JV to manufacture 56 C-295 aircraft at a cost of US$2bn.<br>- The AN-32 modernization will also be a part of IAF's plan. | Along with Tata Advanced System, supply chain constituents like Dynamatic Technologies (manufacturing) and Data Patterns (electronics) are likely to benefit from this program. |

SOURCE: INCRED RESEARCH, COMPANY REPORTS

**Figure 35: Indian Navy's (IN) modernization program**

| IN Programs | Description | Effect on industry |
|---|---|---|
| Fire Warning System | MoD to procure seven FWS to be installed onboard Sindughosh Class Submarines. | Data Patterns, Paras Defence and BEL are the key beneficiaries. |
| Gas Turbine Generator | 1.25MW gas turbine generators to be procured from Indian suppliers for retrofitting an existing power generator onboard three ships. | Heavy Engineering PSUs like DRDO and BEL could benefit from this program. |
| Aircraft Carrier Program | - INC Vikramaditya and INS Vikrant are two aircraft carriers with Indian Navy.<br>- INS Vikramaditya is a refitted and modernized former Russian ICBM Admiral Gorshkov. INS Vikrant (IAC-1) is built indigenously by Cochin Shipyard. | Construction of INS Vikrant has benefitted the entire supply chain. IAC-2 could have higher indigenous component, including defence electronics which will benefit the public sector shipbuilding units and private industry like L&T. |
| Project 17 & 17A | - Mazagon Dock (MDL) has commissioned four ships of Project 17 - Stealth frigates capable of carrying two advanced multi-role helicopters<br>- Seven stealth frigates with advanced features are part of Project 17A. | - Indian Navy programs have achieved significant level of indigenization and manufacturing by DPSUs.<br>- Electronics components used on this submarine can be potentially sourced from domestic players like Data Patterns, L&T, BEL, Paras Defence, Astra Microwave, etc. |
| Project 15A & 15B | Project 15A/15B involves construction of additional Delhi class guided missile destroyers that have stealth and advanced features. | |
| INS 1135.6 - Talwar Class | INS Tej, Tarkash, and Trikand were commissioned as Talwar Class stealth frigates with a replacement of Klub missiles with BrahMos system. | |
| Project 28 ASW Corvettes | GRSE has indigenously built four stealth anti-submarine warfare (ASW) with minimized radar profiles for stealth capability. | |
| Multi Role Carrier Borne Fighters (MRCBF) | - Currently, 4th generation MiG-29k is the flagship fighter for INS Vikramaditya.<br>- Indian forces are expected to import 26 MRCBF (including eight trainer aircraft) for IAC-1 and to replace the Russian trainers.<br>- Boeing F/A-18E/F Super Hornet & Rafale M were examined for procurement. | Neutral impact as the deal is slated for direct buying from foreign OEMs. |
| Maritime Petrol and Recon. | - IN has inducted 12 Boeing Poseidon P-8I, long-range maritime reconnaissance and anti-submarine warfare (LRMR & ASW)<br>- IN is considering acquiring 12 additional aircraft. | |
| Navy Utility Helicopters (NUH) | - IN is looking to procure 111 NUH (US$3.2bn) under the strategic partnership model to replace its Chetak helicopters. | - In a strategic partnership model, foreign OEM will transfer technology for manufacturing in India.<br>- This will lead to significant increase in capability of the indigenous industry and the entire supply chain. |
| Mines Counter Measures Vessels (MCMV) | Under the strategic partnership model, Goa Shipyard (GSL) is constructing eight MCMVs. This could be followed by the construction of similar additional vessels. | Indian Navy requires at least 24 vessels for its operational requirement. |
| Shallow Water ASW Crafts | Induction of 16 shallow water ASW crafts has been processed, and the ships will be built indigenously. | - Companies like CSL and GRSE are well-suited to make this model.<br>- Indigenous shipbuilding will also increase opportunities in C4ISR systems, heavy engineering, and EW, which will benefit companies like Data Patterns, Astra Microwave, L&T, Paras Defence & Space. |
| Amphibious Capability | IN is exploring to induct the Landing Platform Dock (LPD) with five landing ships and a sealift capability of more than 3,500 troops. | Private shipyards like L&T in the running for the contract. |
| Fleet support ships | - IN has exercised its option for one follow-on fleet tanker from Italian shipbuilder Fincantieri.<br>- MoD has also approved procuring five fleet support ships. | HSL has been appointed for the development of five support ships. |

SOURCE: INCRED RESEARCH, COMPANY REPORTS

**Figure 36: Indian Army's (IA) modernization program**

| IA Programs | Description | Effect on industry |
|---|---|---|
| Infantry Modernization | - Indian Army began procuring 700k rifles, 44k LMGs, and 44.6k Carbines in 2017.<br>- The AK 203 rifle made by the JV of Kalashnikov (Russia) and the OFB (India), is the main rifle of the Indian Army. They are made at a factory in Amethi. Carbines and LMGs will also probably be built in the same factory.<br>- IA has a requirement of 186k lightweight bullet proof jackets produced by OFB. | The corporatization of OFBs will have a positive effect on its capability of meeting the requirements, with a trickle-down effect on the supply chain constituents. |
| Network-centric warfare | - Phase-1 of Shakti Artillery, Combat, Command and Control Systems (ACCCS) has been completed (40% artillery units equipped with advanced networks).<br>- Tactical Command Control Communication and Information (Tac C3I) systems and Battlefield Surveillance System (BSS) are in the final test phase.<br>- EWS, Electronic Signals Intelligence (ELINT), and Air Defence Control and Reporting System (ADC&RS) are in the process of development.<br>- Bharat Electronics (BEL) and the Defence and Research Lab at the Centre for AI and Robotics (CAIR) are developing these systems. These systems are expected to be inducted in three-to-four years.<br>- IA continues to acquire other requirements such as UAVs, weapon-locating radars, thermal image intensifiers, night vision systems, and Long-Range Reconnaissance and Observation System (LORROS). | The C3I and Air Defence systems will require a multitude of surveillance and tracking radars, which will benefit players like Data Patterns, Astra Microwave, Paras Defence, L&T and Tata Advanced Systems |
| Armour and Artillery | -India has 2,011 T-90 tanks, with 40 regiments and 6 regiments being raised for high-altitude operations. T-72 tanks are being upgraded with night vision devices.<br>- The indigenous Arjun tank, heavier than the T-90, has a 120mm gun and can fire various types of ammunition, including the LAHAT missile with an 8km range. Arjun Mk II is currently undergoing trials with 75 modifications.<br>- Plans are in place to upgrade 1,600 BMP-2s with a more powerful 350 HP engine, while 700 BMP-1s are currently in active service.<br>- | - A wide range of equipment acquisition programmes spanning combat vehicles, tanks, artillery guns, and missiles are being pursued to upgrade the IA's operational capability.<br>- The programs would include significant components of electronics, COMINT and SIGINT.<br>- Significant benefits are envisaged for companies like Data Patterns and Astra Microwave, which have products in the required categories. |
| Air Defence | - In 2019, IA has inducted the 155mm Dhanush howitzer, M-777 howitzer, and 155mm self-propelled Vajra. Trials for the long-range Pinaka missile were carried out in 2HFY23. Indian Army is conducting trials for Precision Guided Munitions to upgrade its artillery capabilities.<br>- The Hypersonic BrahMos missile is expected to be inducted in the next five-to-six years.<br>- The Army Air Defence is awaiting the induction of VShorad Igla S-24 missiles, which are being developed by DRDO. Development trials for the Quick Reaction Surface-to-Air Missile (QRSAM) were successfully conducted in Sep 2022. | |

SOURCE: INCRED RESEARCH, COMPANY REPORTS

# Defence electronics market

## Global defence electronic market is expected to grow at a 7% CAGR ➤

The defence electronics market is influenced by several key factors, including increased military expenditure by various nations, the necessity to upgrade aging military equipment, and the rapid advancement of cutting-edge technologies like unmanned aerial vehicles (UAVs), artificial intelligence (AI), and cybersecurity.

In recent years, the importance of defence electronic components within the overall platform value has grown significantly, as the evolution of electronics systems and embedded software plays a more prominent role than the platforms themselves in enhancing defence capabilities.

This shift is indicative of a broader change in the battle engagement philosophy, moving away from the focus on sheer numerical superiority towards a strategy that relies on a smaller number of highly capable platforms supported by sophisticated defence electronics systems.

The global defence electronics market is expected to be driven by the replacement and modernization of existing military platforms. The next-generation procurements will see a higher utilization of defence electronics compared to legacy platforms. Upgrades to systems includes, use of new AESA radars, electronic warfare, Intelligence, Surveillance, and Reconnaissance (ISR) system, self-protection system, etc.

As per Defence and Space market report – Mar 2023 by market research agency Frost and Sullivan, the defence electronics component of the platform acquisition cost is expected to rise to 45% from 30%.

**Figure 37: Global defence electronics market grew at a CAGR of 5.3% over 2016-22 and is expected to grow at a CAGR of 7.1% over 2023F-32F**


SOURCE: DEFENCE AND SPACE MARKET REPORT – MAR 2023 (FROST AND SULLIVAN), INCRED RESEARCH, COMPANY REPORTS

## India's defence electronics market ➤

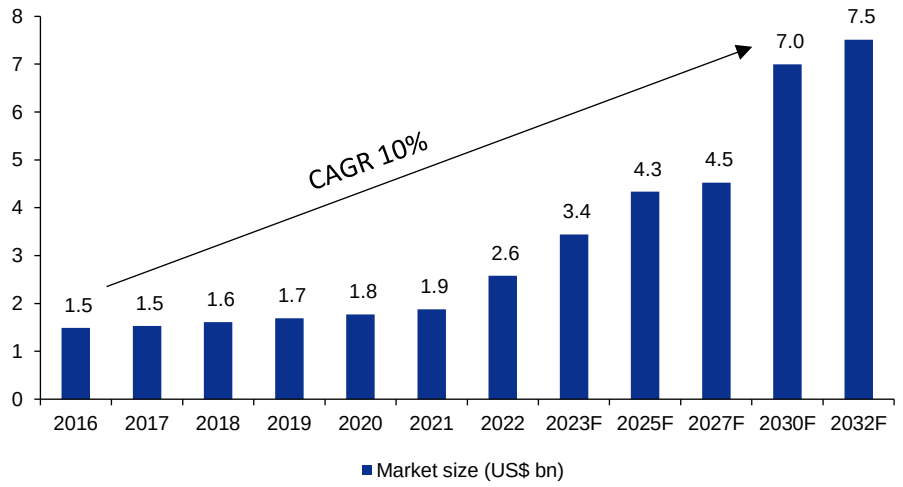
India has made significant progress in its defence electronics industry, producing systems like radars and electronic warfare systems. The country is also developing advanced technologies such as AI and IoT for defence purposes.

Partnerships with international companies have further boosted India's defence electronics sector. Efforts to indigenize defence electronics will lead to improved manufacturing standards and increased presence in global supply chains.

Currently, foreign OEMs supply over 60% of electronic components used in India, but as indigenization continues, more components will be sourced locally. This will be driven by platform recapitalization programs in the armed forces.

As per Defence and Space market report – Mar 2023 by Frost and Sullivan, the domestic defence electronics market was worth ~US$2.6bn in 2022, growing at a CAGR of over 10%, and it is expected to reach ~US$7.5bn by 2032F.

**Figure 38: Indian defence electronics market is expected to grow at a CAGR of ~10% over 2016-32F**




SOURCE: DEFENCE AND SPACE MARKET REPORT – MAR 2023 (FROST AND SULLIVAN), INCRED RESEARCH, COMPANY REPORTS

## Opportunities driving India's defence electronics market

- **Electromagnetic Pulse (EMP) Protection:** EMPs can disable or destroy electronic systems, including those used for command and control, communications, and navigation. As the focus on hardening forward command and control infrastructure bases and platforms against Chinese attacks increases, EMP protection will become more integrated into future platform designs, leading to greater investment in the segment.
- **Defence Optics:** The defence optics market in India is expected to grow significantly in the coming years due to several factors, including the procurement of new airborne combat vehicles, ISR platforms and the modernization of land forces. A further acquisition spree is expected from 2028F as existing platforms will need mid-life upgrades. Many of these platforms will require new and advanced optical systems like night vision devices and communication systems for targeting, navigation, and surveillance.
- **Military Radar Market:** India has a long land border and a large naval and air fleet, all of which require modern radar systems. New procurement for precision approach radars and other types of radar are expected in the coming decade. Data Patterns, which has already supplied radar systems to the Indian government, is well-positioned to succeed in these future programs. The company has won contracts for the Array Group Receiver Unit (AGRU) and the Ashwini Low Level Transportable Radar (LLTR), and it is also supplying airborne surveillance radar to LRDE.

  As new threats emerge, such as nuclear-capable ballistic missiles and high-speed cruise missiles, India will need to procure new radar systems with features such as multiple-band operation and active electronically scanned arrays (AESA). Naval vessel upgrades, such as the Talwar-class frigates, will also drive demand for radar systems. Data Patterns is well-positioned to meet this demand with its innovative radar solutions.
- **Airborne Electronic Warfare (EW):** EW systems are used to detect, identify, and jam enemy radar and communications signals. They can also be used to protect friendly aircraft from these threats. The EW market is undergoing a modernization phase due to the emergence of new technologies, such as next-generation jammers and active electronically scanned arrays (AESAs). These

technologies allow EW systems to generate more complex jamming waveforms and to be more easily integrated onto aircraft platforms.

The demand for airborne EW systems is expected to grow in the coming years as Indian armed forces modernize their existing aircraft fleet (Su-30 MKI) and procure new aircraft such as LCA Mk1A/ Mk2, Dassault Rafale, A330s, C-295 and HAL AMCA.

**EW Jammers:** IAF uses a variety of airborne EW jammers, including the Trap, Trumpet, Tempest, Tusker, Elta EL/L-8222 Airborne Self Protection Jammer (ASPJ), High Band Jammer (HBJ), Radar Warning Jammer (RWJ), and Unified Electronic Warfare System (UEWS). These jammers are used to protect IAF aircraft from a variety of threats, including radar-guided missiles, surface-to-air missiles, and enemy aircraft.

- **Military Avionics:** The defence electronics avionics market is dictated by the frequency of modernization and replacement of existing platforms, in addition to procurement of new combat capabilities. New aircraft procurement will be a major driving force for new avionics with modern capabilities. Companies that can develop the entire range of avionics required for both fighter aircraft and helicopters will find ample opportunities.
- **Communication Intelligence (COMINT)/ Electronic Intelligence (ELINT):** COMINT refers to any intelligence that is gained from communication between people (signals containing speech) and ELINT refers to any intelligence that is gathered from electronic signals like radio or electromagnetic pulses released from radars, missiles etc. The ground-based COMINT/ELINT market is expected to grow in the coming years, driven by the modernization of existing mechanized infantry battalions and the launch of new programs such as Dharashakti and S&S. Data Patterns is well-positioned to capitalize on this growth, having previously sold COMINT receivers to BEL/ECIL for the Samyukta upgrade, Himraj, and other programs.
- **Software-Defined Radios (SDRs):** Software-defined radios are a valuable technology for the military, including the army and air force. SDRs use software to configure and reconfigure radio parameters, which allows for greater flexibility and interoperability between different radio systems.
- **Unmanned Aerial Vehicles (UAVs) and loitering munitions:** They are becoming increasingly important for military operations. UAVs, also known as drones, can be remotely operated, or programmed to fly autonomously. They offer a range of advantages for military operations, including reconnaissance, surveillance, and targeted strikes. **Loitering munitions**, also known as suicide drones or kamikaze drones, are specifically designed to fly over a target area and wait until a target is identified, and then attack the target. They offer advantages for military operations, including precise and targeted strikes, and the ability to engage multiple targets in a single sortie. Compared to manned aircraft and weapon systems, they are more efficient, cost-saving, and safer.

**Figure 39: Total addressable market**

| | 2016 | 2019 | 2022 | 2023F | 2027F | 2032F | CAGR (2016-32F) |
|---|---|---|---|---|---|---|---|
| Military Radar (US$m) | 878 | 1,066 | 1,380 | 1,518 | 2,283 | 3,510 | 9.0% |
| Airborne EW (US$m) | 315 | 383 | 431 | 390 | 593 | 648 | 4.6% |
| Defence Avionics (US$m) | 215 | 274 | 330 | 342 | 400 | 498 | 5.4% |
| Ground COMINT/ELINT (US$m) | 58 | 69 | 89 | 98 | 147 | 215 | 8.5% |
| . | | | | | | | |
| **Indian Defence Electronics (US$m)** | **1,488** | **1690** | **2,577** | **3,443** | **4,526** | **7,513** | **10.6%** |
| **Global Defence Electronics (US$bn)** | **101** | **116** | **138** | **150** | **190** | **279** | **6.6%** |

SOURCE: INCRED RESEARCH, COMPANY REPORTS

**Figure 40: Opportunities driving India's defence electronics market**

| Program | Beneficiary | Opportunity size (US$ m) |
|---|---|---|
| Unmanned Aircraft System (UAS) | Indian Air Force (IAF) | 1,430 |
| Rotary wing | Indian Navy (IN) | 1,880 |
| Infantry Fighting Vehicles (IFV) & Armoured Personnel Carriers (APC) | Indian Army (IA) | 3,610 |
| Command and Control/ Tactical Communications Modernization | IAF / IN / IA | 5,090 |
| Combat aircraft | IAF / IN | 7,900 |
| Armoured fighting vehicle - Light tank | IA | 2,180 |
| High altitude logistics drone (163 nos.) | IA | |
| Medium Altitude logistics drone (200 nos.) | IA | |
| Remotely piloted aerial vehicles (750 nos.) | IA | 200 |
| Mini-remotely piloted aircraft systems (80 nos.) | IA | |
| Runway-independent remotely piloted aircraft systems | IA | |
| Modular bridges (41 sets) | IA | 319 |

SOURCE: INCRED RESEARCH, COMPANY REPORTS

## Peer comparision

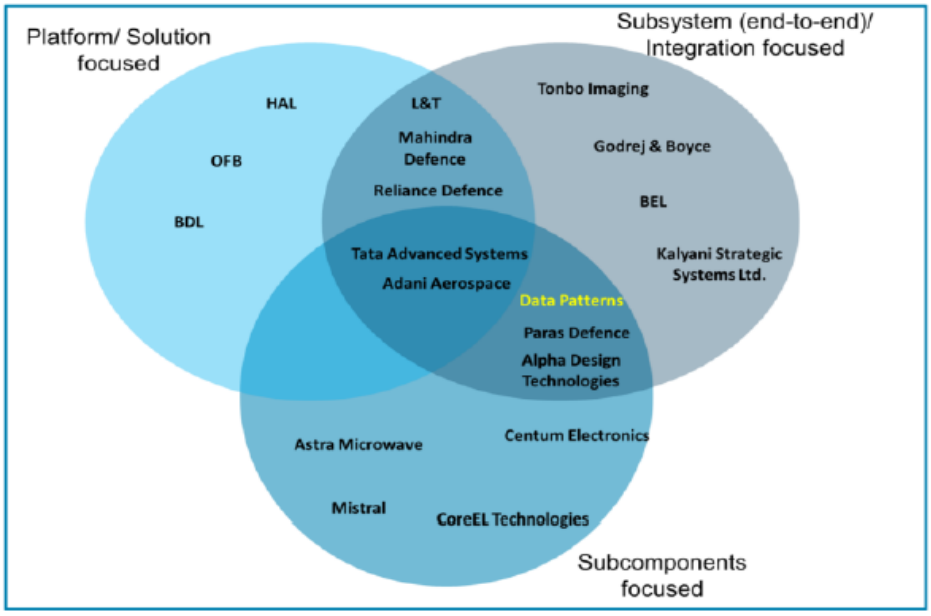
**Figure 41: Product capability comparison of major Indian defence sector stakeholders**

| Company | Radars - Tracking & Surveillance | Radars - Multimission | Radars - Specialized (Stealth Detection etc.) | Seekers and Electronics for Missiles/ Torpedoes/ Sonbuoys | EW | Communications and SDR | Satcom | Ground Stations | Fire Control Systems | Avionics | Nano and Micro Satellites | Testing |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Data Patterns | | | | | | | | | | | | |
| L&T (Defence Engineering Revenues) | | | | | | | | | | | | |
| BEL | | | | | | | | | | | | |
| Paras Defence | | | | | | | | | | | | |
| Mahindra Defence Systems | | | | | | | | | | | | |
| Tata | | | | | | | | | | | | |
| Astra Microwave Products | | | | | | | | | | | | |
| Godrej & Boyce | | | | | | | | | | | | |
| Centum Electronics | | | | | | | | | | | | |
| Alpha Design Technologies | | | | | | | | | | | | |
| Adani Aerosapce & Defence Ltd. | | | | | | | | | | | | |
| CoreEl Technologies | | | | | | | | | | | | |
| Mistral Solutions | | | | | | | | | | | | |

| | |
|---|---|
| Strong Capability - Products and Components | |
| Medium Capability - Mostly Components/ Subsystems | |
| No Capability | |

SOURCE: INCRED RESEARCH, COMPANY REPORTS, DATA PATTERNS DRHP

**Figure 42: Indian defence equipment suppliers**



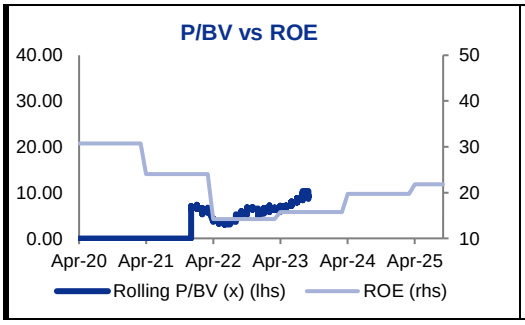

SOURCE: INCRED RESEARCH, COMPANY REPORTS

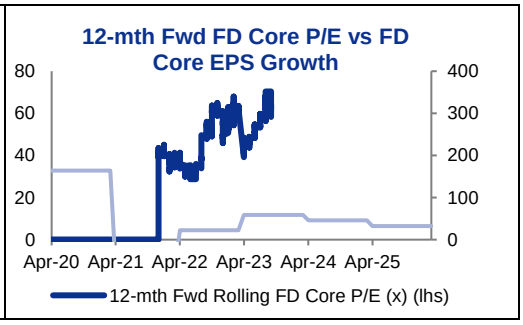
**Figure 43: Defence and aerospace industry - peer comparison**

| Company Name | Bloomberg Ticker | Rating | Closing Price | Target Price | Mkt Cap | P/E (x) | | P/BV (x) | | ROE (%) | | EV/EBITDA (x) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Local Currency | (Rs) | US$ bn | FY24F | FY25F | FY24F | FY25F | FY24F | FY25F | FY24F | FY25F |
| **Indian companies** | | | | | | | | | | | | | |
| Bharat Electronics | BHE IN | ADD | 136 | 140 | 12.0 | 28.9 | 23.9 | 6.4 | 5.6 | 22.2 | 23.4 | 20.3 | 16.7 |
| Hindustan Aeronautics | HNAL IN | ADD | 3,972 | 5,000 | 16.0 | 26.2 | 21.9 | 4.9 | 4.2 | 18.7 | 19.3 | 14.9 | 12.5 |
| Bharat Dynamics | BDL IN | ADD | 1,076 | 1,300 | 2.4 | 32.7 | 22.5 | 5.2 | 4.4 | 15.9 | 19.5 | 23.2 | 15.7 |
| Data Patterns | DATAPATT IN | ADD | 2,045 | 3,000 | 1.4 | 58.3 | 39.9 | 6.5 | 5.5 | 15.7 | 19.7 | 42.8 | 28.5 |
| Astra Microwave Products | ASTM IN | NR | 400 | NR | 0.5 | 27.8 | 21.6 | 4.6 | 3.8 | 16.6 | 17.8 | 19.7 | 15.6 |
| Mishra Dhatu Nigam | MTARTECH IN | NR | 405 | NR | 0.9 | 42.4 | 32.6 | 5.3 | 4.8 | 12.6 | 14.8 | 27.2 | 21.5 |
| Bharat Forge | MIDHANI IN | NR | 1,083 | NR | 6.1 | 40.2 | 29.7 | 6.5 | 5.6 | 16.1 | 18.7 | 20.6 | 16.8 |
| Larsen & Toubro | BHFC IN | NR | 2,913 | NR | 49.3 | 31.2 | 25.1 | 4.2 | 3.7 | 13.5 | 14.9 | 20.3 | 17.1 |
| Solar Industries | LT IN | NR | 4,522 | NR | 4.9 | 44.7 | 37.0 | 12.1 | 9.4 | 27.2 | 25.5 | 28.4 | 23.9 |
| MTAR Technologies | SOIL IN | NR | 2,637 | NR | 1.0 | 52.9 | 39.0 | 10.7 | 8.6 | 20.3 | 22.1 | 34.5 | 26.0 |
| **US Companies** | | | | | | | | | | | | | |
| Boeing | BA US | NR | 211 | NR | 127.1 | (82.4) | 38.6 | (8.1) | (10.6) | 9.9 | (27.4) | 55.8 | 19.2 |
| Lockheed Martin | LMT US | NR | 418 | NR | 105.2 | 15.4 | 14.9 | 12.1 | 12.0 | 78.5 | 81.0 | 12.0 | 11.8 |
| Raytheon | RTX US | NR | 76 | NR | 110.0 | 15.1 | 13.9 | 1.5 | 1.5 | 10.1 | 11.1 | 12.1 | 10.5 |
| Northrop Grumman | NOC US | NR | 424 | NR | 64.2 | 18.7 | 17.2 | 4.0 | 3.8 | 21.6 | 22.4 | 13.7 | 12.7 |
| General Dynamics | GD US | NR | 217 | NR | 59.4 | 17.2 | 14.6 | 3.0 | 2.7 | 17.2 | 18.8 | 12.6 | 11.2 |
| **European companies** | | | | | | | | | | | | | |
| Airbus Group | AIR FP | NR | 130 | NR | 110.3 | 23.1 | 18.8 | 6.4 | 5.2 | 27.7 | 27.7 | 10.7 | 9.1 |
| Safran | SAF FP | NR | 149 | NR | 68.1 | 28.7 | 22.6 | 5.9 | 5.2 | 20.5 | 23.1 | 14.1 | 11.9 |
| SAAB AB | SAABB SS | NR | 601 | NR | 86.2 | 25.8 | 21.4 | 2.5 | 2.3 | 9.7 | 10.6 | 11.5 | 10.1 |
| Kongsberg | KOG NO | NR | 470 | NR | 88.7 | 23.5 | 20.3 | 5.3 | 4.9 | 22.6 | 24.1 | 14.3 | 12.9 |
| Thales | HO FP | NR | 140 | NR | 31.6 | 17.8 | 16.1 | 3.8 | 3.4 | 21.2 | 21.2 | 9.5 | 8.7 |
| BAE Systems | BA/ LN | NR | 10 | NR | 39.8 | 16.9 | 15.7 | 2.8 | 2.6 | 16.3 | 16.4 | 12.0 | 11.2 |
| Dassault Aviation | AM FP | NR | 180 | NR | 15.6 | 16.9 | 14.8 | 2.3 | 2.1 | 13.6 | 14.1 | 8.4 | 7.2 |
| Leonardo Finmeccanica | LDO IM | NR | 14 | NR | 8.5 | 11.2 | 9.7 | 1.0 | 0.9 | 9.2 | 9.8 | 5.6 | 5.4 |
| **Median** | | | | | | **25.8** | **21.6** | **4.9** | **4.2** | **16.6** | **18.8** | **14.3** | **12.7** |
| **Median (Indian companies)** | | | | | | **36.5** | **27.4** | **5.9** | **5.2** | **16.3** | **19.0** | **21.9** | **17.0** |
| **Median (US & Europe))** | | | | | | **17.2** | **16.1** | **3.0** | **2.7** | **17.2** | **18.8** | **12.0** | **11.2** |

SOURCE: INCRED RESEARCH, COMPANY REPORTS, BLOOMBERG

## BY THE NUMBERS




### Profit & Loss

| (Rs mn) | Mar-22A | Mar-23A | Mar-24F | Mar-25F | Mar-26F |
|---|---|---|---|---|---|
| **Total Net Revenues** | **3,108** | **4,535** | **6,284** | **9,094** | **12,039** |
| **Gross Profit** | **2,248** | **2,825** | **4,085** | **5,911** | **7,826** |
| **Operating EBITDA** | **1,410** | **1,718** | **2,555** | **3,837** | **5,085** |
| Depreciation And Amortisation | (66) | (85) | (143) | (202) | (273) |
| **Operating EBIT** | **1,344** | **1,634** | **2,411** | **3,635** | **4,812** |
| Financial Income/(Expense) | (70) | 15 | 202 | 182 | 230 |
| Pretax Income/(Loss) from Assoc. | | | | | |
| Non-Operating Income/(Expense) | | | | | |
| **Profit Before Tax (pre-EI)** | **1,274** | **1,649** | **2,614** | **3,817** | **5,042** |
| Exceptional Items | | | | | |
| **Pre-tax Profit** | **1,274** | **1,649** | **2,614** | **3,817** | **5,042** |
| Taxation | (334) | (409) | (648) | (946) | (1,249) |
| Exceptional Income - post-tax | | | | | |
| **Profit After Tax** | **940** | **1,240** | **1,966** | **2,871** | **3,793** |
| Minority Interests | | | | | |
| Preferred Dividends | | | | | |
| FX Gain/(Loss) - post tax | | | | | |
| Other Adjustments - post-tax | | | | | |
| **Net Profit** | **940** | **1,240** | **1,966** | **2,871** | **3,793** |
| Recurring Net Profit | 940 | 1,240 | 1,966 | 2,871 | 3,793 |
| **Fully Diluted Recurring Net Profit** | **940** | **1,240** | **1,966** | **2,871** | **3,793** |

### Cash Flow

| (Rs mn) | Mar-22A | Mar-23A | Mar-24F | Mar-25F | Mar-26F |
|---|---|---|---|---|---|
| EBITDA | 1,410 | 1,718 | 2,555 | 3,837 | 5,085 |
| Cash Flow from Invt. & Assoc. | | | | | |
| Change In Working Capital | (514) | (1,504) | (873) | (1,397) | (1,570) |
| (Incr)/Decr in Total Provisions | | | | | |
| Other Non-Cash (Income)/Expense | | | | | |
| Other Operating Cashflow | 127 | 133 | 81 | 87 | 93 |
| Net Interest (Paid)/Received | (110) | (77) | (81) | (87) | (93) |
| Tax Paid | (334) | (409) | (648) | (946) | (1,249) |
| **Cashflow From Operations** | **579** | **(139)** | **1,034** | **1,494** | **2,266** |
| Capex | (382) | (549) | (671) | (705) | (951) |
| Disposals Of FAs/subsidiaries | | | | | |
| Acq. Of Subsidiaries/investments | | | | | |
| Other Investing Cashflow | (872) | (205) | (557) | (557) | (835) |
| **Cash Flow From Investing** | **(1,254)** | **(754)** | **(1,228)** | **(1,262)** | **(1,787)** |
| Debt Raised/(repaid) | (265) | (61) | 20 | 20 | 20 |
| Proceeds From Issue Of Shares | 2,925 | 4,878 | | | |
| Shares Repurchased | | | | | |
| Dividends Paid | (160) | (191) | (303) | (442) | (584) |
| Preferred Dividends | | | | | |
| Other Financing Cashflow | (143) | (60) | 202 | 182 | 217 |
| **Cash Flow From Financing** | **2,358** | **4,567** | **(80)** | **(240)** | **(346)** |
| Total Cash Generated | 1,683 | 3,675 | (274) | (7) | 133 |
| **Free Cashflow To Equity** | **(940)** | **(953)** | **(174)** | **253** | **499** |
| **Free Cashflow To Firm** | **(566)** | **(815)** | **(112)** | **320** | **572** |

SOURCE: INCRED RESEARCH, COMPANY REPORTS

## BY THE NUMBERS…cont'd

### Balance Sheet

| (Rs mn) | Mar-22A | Mar-23A | Mar-24F | Mar-25F | Mar-26F |
|---|---|---|---|---|---|
| Total Cash And Equivalents | 1,771 | 5,445 | 5,171 | 5,164 | 5,310 |
| Total Debtors | 1,983 | 3,825 | 5,165 | 7,225 | 9,236 |
| Inventories | 1,198 | 1,930 | 2,582 | 3,613 | 4,618 |
| Total Other Current Assets | 247 | 591 | 591 | 591 | 591 |
| **Total Current Assets** | **5,199** | **11,791** | **13,510** | **16,593** | **19,754** |
| Fixed Assets | 648 | 1,134 | 1,662 | 2,164 | 2,843 |
| Total Investments | | 557 | 1,114 | 1,670 | 2,506 |
| Intangible Assets | | | | | |
| Total Other Non-Current Assets | 1,220 | 864 | 864 | 864 | 864 |
| **Total Non-current Assets** | **1,868** | **2,555** | **3,639** | **4,698** | **6,212** |
| Short-term Debt | 68 | 7 | 27 | 47 | 67 |
| Current Portion of Long-Term Debt | | | | | |
| Total Creditors | 382 | 431 | 689 | 997 | 1,154 |
| Other Current Liabilities | 754 | 2,103 | 2,927 | 4,235 | 5,442 |
| **Total Current Liabilities** | **1,203** | **2,541** | **3,643** | **5,279** | **6,664** |
| Total Long-term Debt | | | | | |
| Hybrid Debt - Debt Component | | | | | |
| Total Other Non-Current Liabilities | | | | | |
| **Total Non-current Liabilities** | | | | | |
| Total Provisions | 119 | 134 | 172 | 249 | 330 |
| **Total Liabilities** | **1,322** | **2,675** | **3,815** | **5,528** | **6,994** |
| Shareholders Equity | 5,745 | 11,671 | 13,334 | 15,763 | 18,972 |
| Minority Interests | | | | | |
| **Total Equity** | **5,745** | **11,671** | **13,334** | **15,763** | **18,972** |

### Key Ratios

| | Mar-22A | Mar-23A | Mar-24F | Mar-25F | Mar-26F |
|---|---|---|---|---|---|
| Revenue Growth | 38.8% | 45.9% | 38.6% | 44.7% | 32.4% |
| Operating EBITDA Growth | 53.3% | 21.8% | 48.7% | 50.2% | 32.5% |
| Operating EBITDA Margin | 45.4% | 37.9% | 40.7% | 42.2% | 42.2% |
| Net Cash Per Share (Rs) | 32.82 | 97.11 | 91.86 | 91.38 | 93.62 |
| BVPS (Rs) | 110.70 | 208.41 | 238.11 | 281.49 | 338.79 |
| Gross Interest Cover | 12.23 | 21.11 | 29.67 | 41.80 | 51.72 |
| Effective Tax Rate | 26.2% | 24.8% | 24.8% | 24.8% | 24.8% |
| Net Dividend Payout Ratio | 17.0% | 15.4% | 15.4% | 15.4% | 15.4% |
| Accounts Receivables Days | 207.99 | 233.75 | 261.08 | 248.65 | 249.52 |
| Inventory Days | 410.31 | 333.93 | 374.39 | 355.22 | 356.46 |
| Accounts Payables Days | 106.34 | 86.72 | 92.87 | 96.63 | 93.16 |
| ROIC (%) | 55.4% | 39.3% | 41.5% | 50.1% | 52.2% |
| ROCE (%) | 33.6% | 19.6% | 19.3% | 24.9% | 27.6% |
| Return On Average Assets | 19.5% | 11.4% | 11.2% | 14.0% | 15.1% |

### Key Drivers

| | Mar-22A | Mar-23A | Mar-24F | Mar-25F | Mar-26F |
|---|---|---|---|---|---|
| Order backlog (Rs m) | 4,760 | 9,241 | 12,457 | 14,863 | 15,824 |
| Order inflows (Rs m) | 2,890 | 9,014 | 9,500 | 11,500 | 13,000 |
| OB/Sales (x) | 2 | 2 | 2 | 2 | 1 |

SOURCE: INCRED RESEARCH, COMPANY REPORTS

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