

DATA PATTERNS (INDIA) LIMITED

Issue highlights

- ❑ **Data Patterns (India) Limited ("Data Patterns")** was incorporated on November 11, 1998. The company is among the few vertically integrated defence and aerospace electronics solutions provider catering to the indigenously developed defence products industry. With net profitability growth of approximately 164% between Fiscal 2020 and Fiscal 2021, they are one of the fastest growing companies in the Defence and Aerospace Electronics sector in India.
- ❑ Their offerings cater to the entire spectrum of defence and aerospace platforms – space, air, land and sea.
- ❑ Data Patterns has design capabilities across the entire spectrum of strategic defence and aerospace electronics solutions including processors, power, radio frequencies ("RF") and microwave, embedded software and firmware and mechanical engineering.
- ❑ Data Patterns has end-to-end capabilities to build and deliver complete systems. Their electronic solutions are developed by specialist teams working on areas including complex 20+ layer printed circuit board ("PCB") designs, field-programmable gate arrays ("FPGA") based firmware algorithms, all layers of software including operating system porting, device drivers, networking layers, application software, graphical user interface, cartography, signal processing, streaming protocols and waveform engineering.
- ❑ Their design and development capabilities have allowed them to **develop complete systems as well as sub-systems for various strategic defence and aerospace electronics solutions**. These systems have found applications on various platforms and programmes such as the Tejas Light Combat Aircraft ("LCA"), the Light Utility Helicopter ("LUH"), BrahMos missile programme, precision approach radars and various communications intelligence ("COMINT") and electronic intelligence ("ELINT") systems.
- ❑ Between Fiscal 2019 and Fiscal 2021, they recorded the highest growth in the revenues of 71%. Also, in Fiscal 2021, they recorded the highest EBIDTA margin, ROCE and ROE amongst key Indian defence and aerospace companies.

Brief Financial Details*

(₹ In Cr)

| | As at Sep' 30, | | As at Mar' 31, | | |
|---------------------------|----------------|----------|----------------|----------|----------|
| | 2021(06) | 2020(06) | 2021(12) | 2020(12) | 2019(12) |
| Equity Share Capital | 9.35 | 1.70 | 1.70 | 1.70 | 1.70 |
| Reserves | 206.98 | 145.23 | 205.77 | 151.50 | 130.89 |
| Net worth as stated | 216.32 | 146.93 | 207.47 | 153.19 | 132.59 |
| Revenue from Contract | 96.45 | 44.48 | 223.95 | 156.10 | 131.06 |
| Revenue Growth (%) | 116.84% | - | 43.47% | 19.11% | - |
| EBITDA as stated | 38.55 | 3.34 | 94.59 | 47.25 | 26.99 |
| EBITDA (%) as stated | 39.67% | 7.28% | 41.75% | 29.50% | 20.37% |
| Profit Before Tax | 30.78 | (6.42) | 74.53 | 28.43 | 10.36 |
| Net Profit for the period | 23.21 | (6.38) | 55.57 | 21.05 | 7.70 |
| Net Profit (%) as stated | 23.88% | (13.90)% | 24.53% | 13.14% | 5.81% |
| EPS (₹) | 4.97^ | (1.36)^ | 11.89 | 4.50 | 1.65 |
| RONW(%) | 10.73%^ | (4.34)%^ | 26.79% | 13.74% | 5.81% |
| NAV (₹) | 46.28 | 31.43 | 44.38 | 32.77 | 28.37 |
| ROCE (%) | 13.41% | 0.30% | 34.69% | 23.39% | 12.45% |

Source: RHP *Restated Statement; Reserve excluding Capital Reserve, EPS and NAV calculated on increase share capital. ^not annualised;

Issue Details

(Fresh Issue of Equity shares aggregating upto ₹240 Cr and Offer for sale of 5,952,550 Equity Shares)

Issue summary

Issue size: ₹ 570 - 588 Cr

No. of shares: 10,276,874 – 10,055,114

Face value: ₹ 2/-

Price band: ₹ 555 - 585

Bid Lot: 25 Shares and in multiple thereof

Post Issue Implied Market Cap = ₹ 2,892 – 3,035 Cr

BRLMs: JM Financial, IIFL Securities

Registrar: Link Intime India Pvt. Ltd.

Issue opens on: Tuesday, 14th Dec'2021

Issue closes on: Thursday, 16th Dec'2021

Indicative Timetable

| Activity | On or about |
|------------------------------------|-------------|
| Finalisation of Basis of Allotment | 21-12-2021 |
| Refunds/Unblocking ASBA Fund | 22-12-2021 |
| Credit of equity shares to DP A/c | 23-12-2021 |
| Trading commences | 24-12-2021 |

Issue break-up

| | No. of Shares | | ₹ In Cr | | % of Issue |
|--------------|-------------------|-------------------|---------------|---------------|-------------|
| | @Lower | @upper | @Lower | @upper | |
| QIB | 5,138,437 | 5,027,557 | 285.18 | 294.11 | 50% |
| NIB | 1,541,531 | 1,508,267 | 85.55 | 88.23 | 15% |
| RET | 3,596,906 | 3,519,290 | 199.63 | 205.88 | 35% |
| Total | 10,276,874 | 10,055,114 | 570.37 | 588.22 | 100% |

Listing : BSE & NSE

Shareholding (No. of Shares)

| Pre issue | Post issue~ | Post issue^ |
|------------|-------------|-------------|
| 47,784,086 | 52,108,410 | 51,886,650 |

~@Lower price Band ^@ Upper Price Band

Shareholding (%)

| | Pre-Issue | Post-Issue |
|---------------------------------|----------------|----------------|
| Promoter | 57.08% | 44.99% |
| Promoters Group | 1.55% | 0.63% |
| Public – Individual Selling S/h | 19.02% | 14.57% |
| Public – Other Selling S/h | 0.37% | 0.19% |
| Public –Other | 21.98% | 39.62% |
| Total | 100.00% | 100.00% |

BACKGROUND

Company and Directors

The company was incorporated as “Indus Tegsite Private Limited” on November 11, 1998, at Bangalore Karnataka. The company was promoted by Srinivasagopalan Rangarajan and Rekha Murthy Rangarajan. Currently, the Promoters hold 27,277,663 Equity Shares, equivalent to 57.08% of the pre-Offer issued, subscribed and paid-up Equity Share capital of the company.

Brief Biographies of Directors

Srinivasagopalan Rangarajan is the Chairman and Managing Director of the company. He has been associated with the company since its incorporation. He has over three decades of experience in business development, corporate affairs, finance and marketing.

Rekha Murthy Rangarajan is the Whole-time Director of the company. She has been associated with the company since its incorporation. She has over two decades of experience in administration, facility maintenance, human resource and development, process engineering and special projects.

Mathew Cyriac is the Nominee Director of the company. He has been associated with the company since June 4, 2021. He has about 23 years of experience in investment banking and private equity.

Sabitha Rao is the Non-executive, Independent Director of the company. She has been associated with the company since September 10, 2021.

Vadlamani Venkata Rama Sastry is the Non-executive, Independent Director of the company. He has been associated with the company since September 10, 2021.

Sowmyan Ramakrishnan, is the Non-executive, Independent Director of the company. He has been associated with the company since September 10, 2021.

Prasad Raghava Menon is the Non-executive, Independent Director of the company. He has been associated with the company since September 10, 2021.

Key Managerial Personnel

Venkata Subramanian Venkatachalam is the Chief Financial Officer of the company. He has over two decades of experience in the finance sector. He joined the company as Manager- Finance in November 2000.

Manvi Bhasin is the Company Secretary and Compliance Officer of the company. She has three years of experience in legal and secretarial matters. She joined the company on July 19, 2021.

Vijay Ananth K is the Chief Operating Officer and Chief Information Security Officer of the company. He has more than two decades of experience in software engineering and product management. He joined company's Erstwhile Subsidiary on September 7, 1998.

Desinguraja Parthasarathy is the Chief Technical Officer of the company. He has 32 years of experience in Product Development. He joined company's Erstwhile Subsidiary on December 4, 1989.

Thomas Mathuram Susikaran is the Senior Vice President-Business Development. He has over 21 years of experience in business development and marketing. He joined company's Erstwhile Subsidiary on September 2, 2000.

Nandaki Devi Ramachandracharya is the Deputy General Manager and Management Representative- Quality Management System. She has 22 years of experience in test engineering. She joined company's Erstwhile Subsidiary on June 2002.

OBJECTS OF THE ISSUE

| Objects | Amount (₹ Cr) |
|---|----------------|
| • Prepayment or repayment of all, or a portion, of certain outstanding borrowings availed by the company; | 60.80 |
| • Funding working capital requirements of the company; | 95.19 |
| • Upgrading and expanding the existing facilities at Chennai; | 59.84 |
| • General Corporate Purposes | [•] |
| Total | [•] |

OFFER DETAILS

| Fresh Issue | No. of Shares |
|---|--|
| Fresh Issue (₹ 240 Cr) | Upto 4,324,324~ - 4,102,564^ Equity Shares |
| The Offer for Sale by: | Upto 5,952,550 Equity Shares |
| Srinivasagopalan Rangarajan– Promoter Selling Shareholder | Upto 1,967,013 Equity Shares |
| Rekha Murthy Rangarajan – Promoter Selling Shareholder | Upto 1,967,012 Equity Shares |
| G.K. Vasundhara – Promoter Group Selling Shareholder | Upto 414,775 Equity Shares |
| Individual Selling Shareholders | Upto 1,528,750 Equity Shares |
| Sudhir Nathan - Other Selling Shareholders | Upto 75,000 Equity Shares |

(~ at lower price band and ^ upper price band)

Details of Pre- IPO Placement of ₹ 60 Cr

The company has undertaken a Pre-IPO Placement of **1,039,861 Equity Shares** at a price of ₹ 577/- per share, aggregating to ₹ 60 crore as under:

| Name of the Entity | No. of Equity Shares | Amount (₹ Cr) |
|--|----------------------|---------------|
| IIFL Special Opportunities Fund – Series 7 | 259,965 | 15.00 |
| Ashoka India Equity Investment Trust PLC | 173,310 | 10.00 |
| Axis Small Cap Fund | 606,586 | 35.00 |
| Total | 1,039,861 | 60.00 |

SHAREHOLDING PATTERN

| Shareholders | Pre-offer | | No. of Shares offered | Post-offer | |
|---|-------------------------|---------------------------------|-----------------------|-------------------------|---------------------------------|
| | Number of Equity Shares | % of Total Equity Share Capital | | Number of Equity Shares | % of Total Equity Share Capital |
| Promoters | 27,277,663 | 57.08% | 3,934,025 | 23,343,638 | 44.99% |
| Promoters Group | 741,895 | 1.55% | 414,775 | 327,120 | 0.63% |
| Total for Promoter & Promoter Gr | 28,019,558 | 58.63% | 4,348,800 | 23,670,758 | 45.62% |
| Public – Selling Shareholders | 9,088,200 | 19.02% | 1,528,750 | 7,559,450 | 14.57% |
| Public – Other Selling Shareholders | 175,450 | 0.37% | 75,000 | 100,450 | 0.19% |
| Public - Others | 10,500,878 | 21.98% | 0 | 20,555,992 | 39.62% |
| Total for Public Shareholders | 19,764,528 | 41.37% | 1,603,750 | 28,215,892 | 54.38% |
| Total Equity Share Capital | 47,784,086 | 100.00% | 5,952,550 | 51,886,650 | 100.00% |

BUSINESS OVERVIEW

Data Patterns (India) Limited (“Data Patterns”) is among the few vertically integrated defence and aerospace electronics solutions provider catering to the indigenously developed defence products industry. With net profitability growth of approximately 164% between Fiscal 2020 and Fiscal 2021, they are one of the fastest growing companies in the Defence and Aerospace Electronics sector in India. They have proven in-house design and development capabilities and experience of more than 3 decades (including through their erstwhile subsidiary) in the defence and aerospace electronics space. Their offerings cater to the entire spectrum of defence and aerospace platforms – space, air, land and sea. Between Fiscal 2019 and Fiscal 2021, they recorded the highest growth in the revenues of 71%. Also, in Fiscal 2021, they recorded the highest EBITDA margin, ROCE and ROE amongst key Indian defence and aerospace companies.

Data Patterns has design capabilities across the entire spectrum of strategic defence and aerospace electronics solutions including processors, power, radio frequencies (“RF”) and microwave, embedded software and firmware and mechanical engineering. Their core competencies include electronic hardware design and development, software design and development, firmware design and development, mechanical design and development, product prototype design and development, functional testing and validation, environment testing and verification and engineering services opportunities.

Their capabilities across the spectrum of defence and aerospace electronics solutions from design to delivery allows them significant competitive advantage in terms of overall development time and cost and also allows them to offer

competitive pricing when bidding for defence and aerospace projects. The platform specific products and products certified for on-going programmes allow them to be the preferred OEM supplier for such qualified product requirements, driving growth and revenue visibility over many years.

Data Patterns has end-to-end capabilities to build and deliver complete systems, with their design and manufacturing capabilities being completely in-house. Their electronic solutions are developed by specialist teams working on areas including complex 20+ layer printed circuit board (“PCB”) designs, field-programmable gate arrays (“FPGA”) based firmware algorithms, all layers of software including operating system porting, device drivers, networking layers, application software, graphical user interface, cartography, signal processing, streaming protocols and waveform engineering. Their capabilities across the spectrum of aerospace and defence electronics solutions from design to delivery allows them significant competitive benefits in terms of overall development time and cost and also allows them to offer competitive pricing when bidding for aerospace and defence projects.

The company has diversified their products and solutions mainly due to their design and development capabilities, and qualified and experienced workforce. As on September 30, 2021, they had 818 employees with more than 500 qualified engineers, including 383 members in their Design & Engineering department. **Their design and development capabilities have allowed them to develop complete systems as well as sub-systems for various strategic defence and aerospace electronics solutions.** These systems have found applications on various platforms and programmes such as the Tejas Light Combat Aircraft (“LCA”), the Light Utility Helicopter (“LUH”), BrahMos missile programme, precision approach radars and various communications intelligence (“COMINT”) and electronic intelligence (“ELINT”) systems.

Data Patterns has invested in and developed a reusable building block model leading to capabilities / competence across various product domains. This approach has allowed them to achieve better margins due to spreading out of development costs over multiple programmes, in addition to saving on development time for new products. Several of their existing products or their component modules or building blocks are pre-approved by their customers, especially defence-sector public sector undertakings (“DPSUs”) and government ministries and departments, also allowing them the benefit of reduced lead times for development of new products.

They have developed products using these building blocks for the LCA, the LUH, BrahMos’ missile programme, including land and air based missile launch systems and automatic test equipment, tracking radars, weather radars, automatic test equipment and nano satellites for the Indian government space organisation, DRDO’s radars and Electronic Warfare systems, and on-board equipment for various aircraft, missiles and torpedoes and Airborne Early Warning and Control Systems (“AWACS”). These products are already qualified, certified and incorporated into the end platforms by their customers.

Company’s integrated approach across complete product life cycle and expertise in contemporary technologies enhances their competitiveness with respect to traditional import and transfer of technology (“ToT”) dependent DPSUs and private sector entities. Further, a large number of their orders are on single vendor basis and are typically not awarded on an open tender basis.

Various test equipment indigenously designed and developed by the company



Indigenously developed fire control system for the BrahMos missile programme



Designed and developed the second launch pad countdown system for delivery to the Indian government space organization



Designed and developed Primary Surveillance Radar for coastal surveillance for the Indian government space organization



Developed Seaking automated test equipment for INS Shikra



Laser guided bomb kit tester



Satellite bus management system



Digital flight control computer

Many of their electronics solutions are also capable of being deployed in civilian fields, including wind profile radars, Doppler weather radars, and data buoy sub-systems and tsunami warning sub system applications. These products

benefit from the reliability engineering built into defence products, assuring a long life and stable performance over many years. Their process driven approach has allowed them to be future ready with application of their products across defence and civilian systems.

As a result, the company or their Promoters have received several awards and recognitions including:

- Make in India Award by TIECON, Chennai;
- Outstanding contributions and achievements by SIATI in 2017;
- Most Growth Oriented Company award from planmytrainings.com in 2019;
- Professional Excellence Award from the Institute of Directors, in 2019.

Company's manufacturing facility consists of a 100,000 square feet factory built on 5.75 acres of land in Chennai, which has facilities for design, manufacturing, qualification and life cycle support of high reliability electronic systems used in defence and aerospace applications. Their facility includes an Electronic Manufacturing Services ("EMS") line, clean rooms, board, box and rack level integration capability and environmental testing making them self-sufficient in their requirement of high quality and high complexity production. In house functional testing for all their products is carried out, usually using internally developed automatic testing equipment. Environmental test facilities are also available for the requirements of JSS-55555 / MIL-STD- 461 / MIL-STD-810 including for Highly Accelerated Life Test ("HALT") and Highly Accelerated Stress Screening ("HASS"). The modern production and test infrastructure caters to production and validation of defence and aerospace electronics systems. They are certified for or follow various standards across product life cycles, including for aerospace systems under AS9100D by TUV-SUD, International Printed Circuit ("IPC") Standards for Printed Circuit Board ("PCB") design and DO 178B for software for airborne systems.

They are also in the process of upgrading and expanding their facility, with a proposed doubling of available floor area and manufacturing capacity, as well as addition of capability of handling large and heavy equipment, integration of large radars and mobile electronic warfare systems and satellite integration facility. Their testing capabilities are also proposed to be further strengthened. They are proposing to acquire an additional 2.81 acres of adjacent land for further expansion.

The key financial metrics:

(₹ In Cr)

| | For the 6 months ended Sep'30, | For the year ended March 31, | | |
|-------------------------|--------------------------------|------------------------------|---------------|---------------|
| | 2021 | 2021 | 2020 | 2019 |
| Revenue from operations | 96.45 | 223.95 | 156.10 | 131.06 |
| - Production | 80.67 | 170.13 | 144.48 | 84.52 |
| - Development | 6.43 | 36.50 | 0.13 | 36.45 |
| - AMC | 9.34 | 17.32 | 11.49 | 10.10 |
| Total borrowings | 52.41 | 33.22 | 60.57 | 60.13 |
| Net Debt / (Net Cash) | (13.75) | (8.24) | 14.90 | 23.08 |

They also benefit from the significant industry experience of their management team, including their Promoters and Directors. Their Promoter and Chairman and Managing Director, Srinivasagopalan Rangarajan, holds a Bachelor's Degree in Chemical Engineering from the University of Madras and a Master's Degree (MS) in Industrial Management from the Indian Institute of Technology, Madras and their Promoter and Director, Rekha Murthy Rangarajan, holds a Bachelor's Degree of Arts from the Bangalore University and a Master's Degree of Arts in Applied Psychology from the University of Madras, and both have been associated with the defence and aerospace electronics industry for more than 3 decades. Many of their senior personnel, including the Chief Technology Officer, Desinguraja Parthasarthy, the Chief Operating Officer and Chief Information Security Officer, Vijay Ananth K, and their Senior Vice President- Business Development, Thomas Mathuram Susikaran, each with many years of relevant industry experience, have been associated with the company for more than 2 decades.

ORDER BOOK

Order Book by Stage on Contract:

| Particulars | Number of orders | Value (₹ Crore) |
|-------------------------|---|-----------------|
| Production Contracts | 34 | 389.82 |
| Development Contracts | 19 | 123.35 |
| Service Contracts | 52 (including 27 Build to Print orders) | 68.14 |
| Total order book | 105 | 581.30 |

Order Book by product grouping

| Particulars | Number of orders | Value (₹ Crore) |
|---------------------------|------------------|-----------------|
| Radar | 20 | 362.81 |
| Service | 53 | 68.44 |
| Avionics | 7 | 41.02 |
| Communication | 2 | 30.95 |
| Electronic Warfare Suite | 4 | 25.49 |
| ATE | 10 | 24.31 |
| BrahMos missile programme | 3 | 18.68 |
| Small Satellite | 2 | 5.27 |
| Naval system | 4 | 4.33 |
| Total | 105 | 581.30 |

With an order book of ₹ 581.30 crore as on September 30, 2021, which has increased from ₹ 178.70 crore as on April 1, 2018 at a CAGR of 40.08%, indicating a scalable business model. Their ability to obtain prospective orders on the on-going programmes are favourable as typically such processes have limited indigenous competition, and high entry barriers due to the development and qualification cycle of both product and platform. Their orders in hand reflect products that have progressed from the development to production phase, thereby enabling rapid growth of turnover and profits. Further, 8.07%, 14.76%, 7.13% and 9.16% of their total revenue from operations for the 6 months ended September 30, 2021, Fiscal 2021, Fiscal 2020 and Fiscal 2019, respectively, being contributed by their global clients.

REVENUE FROM OPERATIONS

| Product Category | 6 months ended Sep' 30 | | | | Fiscal | | | | | |
|--------------------------------------|------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| | 2021 | | 2020 | | 2021 | | 2020 | | 2019 | |
| | Amount ₹ Cr | % of Total | Amount ₹ Cr | % of Total | Amount ₹ Cr | % of Total | Amount ₹ Cr | % of Total | Amount ₹ Cr | % of Total |
| Sale of Products | 87.43 | 90.65% | 39.52 | 88.86% | 196.16 | 87.59% | 143.02 | 91.62% | 114.85 | 87.63% |
| Sale of Services | 9.02 | 9.35% | 4.95 | 11.14% | 27.79 | 12.41% | 13.08 | 8.38% | 16.21 | 12.37% |
| Total Revenue from Operations | 96.45 | 100.00% | 44.48 | 100.00% | 223.95 | 100.00% | 156.10 | 100.00% | 131.06 | 100.00% |

COMPANY'S PRODUCTS

Company's major product groups consist of (i) Radars, (ii) Underwater electronics / communications / other systems, (iii) Electronic warfare suite, (iv) BrahMos programme, (v) Avionics, (vi) small satellites, (vii) ATE for defence and aerospace systems, (viii) COTS.

key products and categories

| Radars | |
|--------------------|--|
| Surveillance Radar | Low Level Transportable Radar – Central acquisition radar of medium range low level target detection and can detect manoeuvrable targets. Ashwini, is a product of LRDE-DRDO. The LRDE Radar has been developed as an import substitute. One of the critical and high value aspect of this modern Radar is the Phased Array Antenna comprising sub-systems including a transmit/receive modules and the receive modules together with the array group receivers. The company has developed several electronic components in this Radar. |
| Weather Radars | Data Patterns has developed radars for cloud and rainfall measurement. These complex multi-disciplinary systems includes volumetric scanning, mechanical pedestal mounted antenna with dual polarisation capability. Involved algorithms have been developed for extracting the weak echoes from the clouds utilising customised waveforms. Orders for X-Band Doppler Weather Radar at Chennai and C-Band Doppler Weather Radar at Mumbai have been executed. |
| Wind Profile Radar | Wind profile radar obtains the direction and the intensity of the wind and various altitudes above the radar. This radar designed and developed by the company and installed at Cochin, is the world's first 205MHz system. The radar is used for atmospheric research by Cochin University of Science and Technology. |
| Tracking Radars | The Indian government space organisation utilizes tracking radars to monitor flight trajectory of PSLV and GSLV launch vehicles as well as sounding rockets that are launched from SDSC Sriharikota and from Thumba Equatorial Rocket Launching Station ("TERLS") at Trivandrum. |
| BrahMos missile | An important portion of the missile which searches for the target and thereafter guides the |

| | |
|--|---|
| seeker | missile to its target. |
| Identify Friend or Foe (IFF) Seeker | DRDO has accorded ToT of IFF system and short range optical target locator to the company. |
| Underwater electronics / Communications / Other systems | |
| <i>Oceanography Products</i> | Company's oceanography products are primarily employed in the data acquisition requirements of the ocean resources. Critical weather parameters on the ocean surface such as air and sea water temperature, salinity, wind speed and its direction, wave intensity are measured by data buoys, designed and developed by us. The data acquisition sub-system, system integration accessories, interfaces to satellite communication systems, and central data consolidation, recording and presentation are implemented by them. |
| <i>Electronic warfare suite</i> | Electronic Warfare is divided into a number of major functionalities. It is used for passive surveillance and intelligence gathering (" SIGINT ") and is further broadly divided into COMINT and ELINT. The other major division is Electronic Counter Measure which can jam the opponents' communication signal / radar signal. Specialised products such as Search Receiver, Monitoring Receiver, Direction Finder, Radar Warning Receiver have all been developed by the company. Their EW domain strength includes the entire spectrum of signal reception, conversion, monitoring using hardware and software are all developed in-house as per the requirements of their customers. |
| BrahMos programme | |
| Fire Control systems: <i>Land based</i> | These systems were indigenously developed around 2002 and deployed across India. This particular product has a high export potential due to the success of the BrahMos missile programme. |
| Airborne launcher for Sukhoi 30 | The company has developed flight qualified launchers in the BrahMos System. Multiple units have been delivered to equip Su-30 aircraft with the BrahMos missile launch capability. |
| <i>Other electronic systems</i> | The company has also develop, an auxiliary product. The Missile Checkout System that validates the health of the missiles in storage have been indigenised and maintained by them. These are installed in various locations around India. Subsequently they have developed 'O' level and 'I' level testers for the BrahMos air version launcher which have been delivered. |
| Avionics | |
| Avionics Displays | The company has focused on Avionics displays as one of their key technology domains. These displays have to withstand airborne standards and there is a premium placed on these displays due to multi-disciplinary technological content. Their products have been used on the LCA, Intermediate Jet Trainers and LUH. The entire Glass Cockpit of the LUH is produced and delivered by the company along with the accompanying Data Interface Unit. |
| ATE | |
| Automated Test Equipment | <p>One of company's core businesses for over 25 years has been the development of Automated Test Equipment for critical Aerospace requirements. The Indian government space organisation requires various types of automated test equipment for development of its test benches for the Polar Satellite Launch Vehicle ("PSLV") and Geo Stationary Launch Vehicle ("GSLV"). All the electronic systems on the PSLV and GSLV as well as some satellite sub-systems are tested by the Indian government space organisation using such ATE. A robust service network ensures uptime of all this equipment. They are the only company in India to have developed these complex ATE modules and are well established to capture the opportunity. They have a "rate contract" with the Indian government space organisation for more than a decade allowing single vendor procurement, which has expired and is currently under renewal.</p> <p>Further, various departments of the armed forces, including the DRDO utilise ATE for validation of all the electronics on various platforms, including airborne electronic systems such as Mission Computers, Displays, Launcher, Complete Missiles, Laser Guided Bomb and Infrared Guided Missiles. The company is also likely to benefit from the testing requirements of defence equipment in addition to the space industry testing portfolio. In addition, their test equipments are utilised for validation of all the electronics on the Sea King Anti-Submarine Warfare Helicopter.</p> |
| COTS | |
| COTS | The off the shelf products are broadly categorised into military COTS and traditional COTS. Military COTS is typically a COTS product developed or customised to respond to specific military requirements. COTS modules are designed in the context of reusable building blocks for building Military electronics systems with a quick turnaround time. |

COMPETITIVE STRENGTHS

- **Indigenous integrated and strategic defence and aerospace electronics solutions provider which is well positioned to benefit from the Make in India opportunity**

The Indian defence industry is rapidly evolving into a self-sustaining one with companies and DPSUs moving towards specialising into defence primes, integrators and component suppliers. Similarly, the space industry is expanding with new space participants offering services which were previously offered by the Indian government space organisation such as launch services, satellite operations and downstream services. With DPSUs focussing on specialisation and integration and subcomponent manufacture being outsourced to the private industry, there are resultant expanded opportunities for the private sector. Company's focus on building complete systems from the building blocks and sub-systems already developed, provides a higher value addition.

Since inception, Data Patterns has focussed on designing and building their own products. They have extended their product focus across the manufacturing value chain from industrial and test automation to automated test equipment for space systems to developing products and sub-systems for defence and aerospace systems through DRDO. They are focussed on developing complete systems and sub-system solutions in domains such as radars, electronic warfare, communication systems, RF and microwave, Military COTS (such as VME and VPX processor boards, digital receivers, Input/Output modules of many functions and form factors), avionics, missile and torpedo electronics, fire and launch control systems, space based systems and automatic test equipment.

Using their experience of working with the DRDO and from development of the wind profile radar, they successfully bid for and obtained an approximately ₹ 380 crore contract from the MoD for 9 precision approach radars for the Navy and Air Force, which are currently in the delivery stage.

- **Innovation focussed business model**

Since inception, they have focussed on in-house development and manufacturing capabilities lead by innovation and design and development efforts. As on September 30, 2021, they had more than 500 engineers, many of whom serve in both design and development departments. They have in the past initiated development of several projects, such as military grade processor modules, cockpit displays, actuator controllers for missiles and torpedoes, flight control computers, digital receivers and Up/Down converters for radars, with an aim to utilise these components in subsequent projects.

They design and develop a number of building blocks similar in specifications to imported modules to allow them to compete in local tenders of DRDO for military commercial-off-the-shelf ("COTS") products. Some of their present programmes include:

- Airborne phased array radar,
- Frequency hopping radio relays,
- Next generation EW products,
- Integrated EW solution for national security, etc.

The products designed and developed by the company which are "future ready", have an ability to be used as blocks in future platforms and products, include:

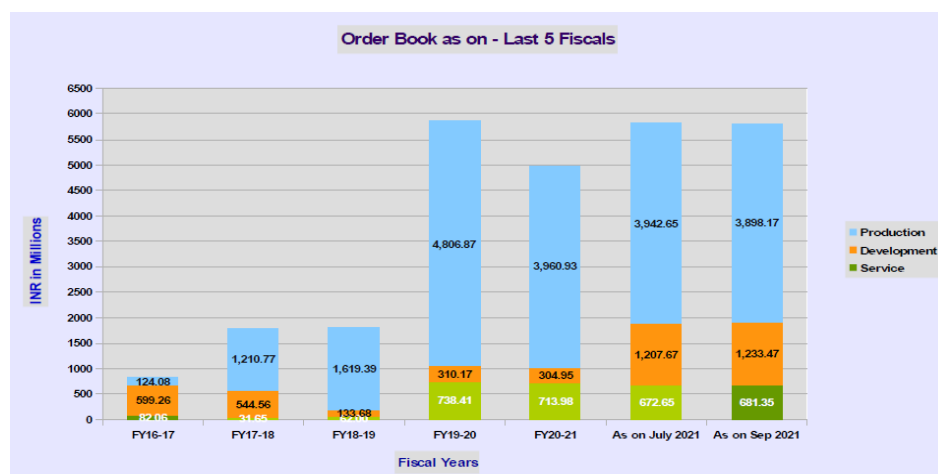
| Product(s) | Details |
|--|--|
| Monopulse RF Seeker | Delivered prototypes to DRDO |
| X-Band Doppler Weather Radar | Prototype installed in Chennai for the government meteorology department |
| 205MHz Wind Profile Radar for CUSAT | Installed at Cochin for a government owned university |
| Radar for Naval Utility Helicopter | Prototype delivered to LRDE |
| A Next-Generation Software Defined Radio | Prototype developed for DEAL |
| A Next-Generation Radar Warning Receiver | Prototype developed for DEAL |
| A Next-Generation COMINT | Prototype developed for DEAL |
| A Next-Generation ELINT System | Prototype developed for DEAL |
| Nano Satellite | Being delivered to industry and educational institutions |

- **Sound order book across product categories supplying to marquee customers in the defence and aerospace industry**

As on September 30, 2021, Data Patterns had an order book of ₹ 581.30 crore, with orders from several marquee customers in the Indian defence ecosystem, including the Indian government defence ministry, BrahMos, DRDO, the Indian government space organisation, HAL, BEL and a DPSU involved in the missile space. They are currently engaged in the supply of products to several prestigious defence projects in India, including the LCA, the HAL Dhruv,

LUH and the BrahMos missile programme. In each of the above projects, their products form critical components, such as the launch systems for the ground based BrahMos missile launcher, flight and safety critical “take me home” displays for the Tejas.

The breakup of the order book in each of the 5 previous Fiscals and as on September 30, 2021 is as below:



The company continue to invest in product development on various platform specific products which has an annuity requirement thus ensuring continuity of business in the years to come.

- **Modern certified manufacturing facility of international standards**

Company's in-house design and development capabilities are complemented by their 100,000 sq.ft. manufacturing facility located on 5.75 acres of land at the SIPCOT Information Technology Park, Siruseri, Chennai, which has facilities for design, manufacturing, qualification and life cycle support of high reliability electronic systems used in defence and aerospace applications. Their facility allows them to be self-sufficient in their requirement of high quality and high complexity production while ensuring functional testing for all their products using internally developed automatic testing equipment.

The modern production and test infrastructure caters to production and validation of Aerospace, Defence and Space electronics systems. They are certified for or follow various standards across product life cycles, including for aerospace systems under AS9100D by TUV-SUD, IPC Standards for PCB design, DO 178B for software for airborne systems, Software life cycle processes and environment standards MIL-STD-810, JSS-55555 and EMI-EMC standard MIL-STD-461. Further, their systems and processes are subject to periodic audit by their customers. Their EMS line is also certified for production by the Indian government space organisation.

- **Consistent track record of profitable growth due to a scalable business model**

Data Patterns is one of the fastest growing companies in the Defence and Aerospace Electronics sector in India with excellent margins and return ratios. They have been focused on managing costs by leveraging the inherent efficiencies in their reusable building block driven business model while consistently growing revenues. The scalability of their business is derived from their capability to build complete systems/solutions. Their capability to build the complete system from building blocks designed in-house with IP allows competitive cost advantage.

- **Experienced management team and skilled workforce**

The company has a management team with extensive experience in the defence sector. Their Promoter and Chairman and Managing Director have been associated with the defence and aerospace electronics industry for more than 3 decades. Many of their senior personnel have been associated with them for more than 2 decades.

The quality of their management team has been critical in achieving their business results and that their management's experience allows them make strategic and timely business decisions in response to evolving customer needs and market conditions. Their focus on skilled and qualified manpower has ensured that each of their 760 employees including more than 450 engineers, as on July 31, 2021 are certified by various industry bodies or educational institutions. The company has also benefitted from the experience of marquee investors, including **Florintree Capital Partners**, who have invested in Fiscal 2021.

KEY BUSINESS STRATEGIES

- ***Continue expansion of product portfolio with complex technology-based products***

Data Patterns currently offers electronic solutions developed by specialist teams working on areas including complex 20+ layer PCB designs, FPGA based firmware algorithms, all layers of software including operating system porting, device drivers, networking layers, application software, graphical user interface, cartography, signal processing, streaming protocols and waveform engineering. They intend to continue to expand their capabilities and product portfolio to enhance their offerings in the defence and aerospace electronics space, especially in complex technology based products.

Further, they intend to opportunistically bid for and engage in higher value projects which require significant use of complex technologies. They have developed and deployed their first **Nano satellite** (“**NIUSAT**”) which was deployed in 2017. Based on the learning they have received 2 more contracts to design and build Nano satellites. The Indian government space organisation uses on board and ground systems developed by the company for their Nano satellite programme. Every part of the satellite is designed in-house. The capability to build the satellite bus along with the ground stations coupled with the knowledge to build the required defence payloads for EW, Radars and vision will allow them to develop the larger defence satellites.

Further investments are being made in AESA radars, modern EW Systems, Airborne sensors, among others. They believe that these complex technology-based products have wide ranging applications across defence and aerospace areas and would provide a higher value growth opportunity. For example, they have developed the RF seeker for the BrahMos missiles along with DRDO. Post flight test, these can be inducted into BrahMos missiles. Similarly, the radar warning receiver developed by them with DRDO can find requirements in the LCA, which is currently under trial with HAL.

Government’s latest policies seek 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, is expected to be one of the key growth drivers for the Indian indigenous defence industry. Further, weapons and defence electronics will see a major uptick in acquisition, as the Indian forces look to upgrade their operational engagement and network-centric capabilities.

- ***Focus on repeat large volume production orders***

Due to their reusable building block model and their pre-existing certification and platform specific products, they are able to distribute development costs over multiple programmes and also be the preferred OEM supplier for on-going programmes. Of these, RWR and ELINT are currently in the testing and flight trial stage, while cockpit displays for LUH, antenna electronics for Ashwini Radars, etc. have entered the initial production phase, which will provide greater volumes and increased orders over the coming years. The 205 MHz wind profile radar developed by them is capable of re-design and deployment with military applications, such as detection of stealth aircraft.

The company continues to invest resources in developing modern receivers for both communication and radar threats with DRDO, which will find applications in future and ongoing EW requirements of the Indian defence forces.

- ***Augmenting the design and development capabilities and expanding manufacturing infrastructure***

The company intends to deploy the amount from the Net Proceeds of this offer towards upgrading and expanding of their existing facilities located in Chennai. The proposed expansion of their facilities, which will include acquisition of an additional 2.81 acres of adjacent land for further expansion, large systems integration hangar, complete radar integration, electronic warfare vehicle integration, augmented environmental test infrastructure, multi ton material handling, additional EMS line and clean room for satellite integration. They also intend to augment their design and development capabilities for their various verticals, including their design verticals, through procurement of additional software, testing equipment or other related hardware. This is the part of their on-going process of increased capabilities.

- ***Focus on increasing revenues by leveraging core competencies and grow the services business***

Company’s core competency is driven by robust process and quality standards. They intend to leverage this expertise and start providing engineering services to OEMs, including for electronic hardware development, embedded software and application development, algorithm and firmware development, testing and validation activities, obsolescence management and life extension of defence OEM products and other non-defence products. Their domain expertise helps them to understand the customer’s requirements in a timely manner thereby leading to time and cost efficiencies for all parties.

The company intends to grow their portfolio of services and provide maintenance services, upgradation and other routine repair and upkeep services to customers, to allow them to expand their revenues from sale of services.

• Focus on increasing export business

The company intends to expand to high-end global markets similar to India, where their core competency is in complete sync with requirements for various sectors, such as industrial automation, telecom, automobile (electronic sub-systems), medical (electronic sub-systems) and nuclear. Either their engineering services model or product development model shall be utilized to leverage sales from these markets.

Given their design and manufacturing capabilities, there is significant potential for them to move into newer geographies and markets. They intend to identify market opportunities in overseas jurisdictions and tie up with local partners to utilise their existing product portfolio and further develop products suitable for meeting the respective country's native requirements.

COMPETITION

The company faces competition at two levels; (i) during the development stage in DRDO requirements from small and medium size companies building custom solutions and/or integrating the solutions around imported COTS products and (ii) from large corporates offering complete systems, often under a partnership with international OEMs, for products and programmes directly procured by the Indian government defence ministry.

Competition for segments will be from various companies, including **L&T, BEL, Mahindra Defense Systems, Astra Microwave Products, Alpha Design Technologies, Mistral Solutions, CoreEI Technologies**, etc.

COMPARISON WITH LISTED INDUSTRY PEERS (AS ON 31ST MARCH 2021)

| Name of the Bank | Consolidated / Standalone | Face Value | Revenue from operations FY 2021 (₹ Cr) | Closing Price [^] (₹) | (EPS (Basic)) | NAV [^] | P/E [~] | RoNW (%) |
|----------------------------------|---------------------------|------------|--|--------------------------------|---------------|------------------|------------------|---------------|
| Data Patterns (India) Ltd | Restated | 2 | 223.95 | [•] | 11.89 | 44.38 | [•] | 26.79% |
| Listed Peer | | | | | | | | |
| MTAR Technologies Ltd | Consolidated | 10 | 246.43 | 2,184.85 | 16.99 | 154.99 | 83.56 | 9.66% |
| Astra Microwave Products Ltd | Consolidated | 2 | 640.91 | 247.35 | 3.33 | 64.51 | 51.28 | 5.16% |
| Centum Electronics Ltd | Consolidated | 10 | 817.43 | 519.75 | 13.31 | 173.14 | 34.90 | 5.40% |
| Bharat Electronics Ltd | Consolidated | 1 | 14,108.69 | 197.80 | 8.62 | 45.39 | 23.49 | 18.99% |

Source: RHP; Closing market price of equity shares on BSE on November 26, 2021.

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