Investorstack Research Report

Data Patterns (India) Limited

What Data Patterns (India) Limited does

Data Patterns is an indigenous defence and aerospace electronics company. It designs, develops, manufactures and services electronic products for India's armed forces and the Defence Research and Development Organisation (DRDO). Founded in 1998, the company has spent nearly 30 years building in-house capability to produce complete defence systems - radars, electronic warfare suites, avionics, communication systems and missile seekers. As of FY25, it employs 1,545 people, of which 1,058 are engineers. The company operates from a single plant at SIPCOT IT Park, Siruseri, Chennai, with branch offices in Bengaluru, Hyderabad, New Delhi and Thiruvananthapuram.

The company's core differentiation is that it does not just manufacture subsystems to someone else's design. It designs the entire system in-house - from the building blocks of RF and microwave electronics up to the full radar, jammer pod or cockpit display. This vertically integrated, IP-owned approach means Data Patterns can supply a complete system to the end user, not just a component to a prime contractor. That is a deliberate strategic shift the company has made over the last decade, moving from being a subsystem vendor to a full systems integrator.

> *"Our focus today is to build full systems. If you want to build scale, you want to be a INR10,000 crores company, it's going to be very difficult to do this by making components and subsystems."*
>
> MD, Q1 FY26 CONCALL (AUG 2025)

The business is entirely driven by government and public sector customers. The Ministry of Defence, DRDO, HAL, BEL, ECIL and BrahMos Aerospace are its main counterparts. There is no significant private sector customer. The company is debt-free and has a strong balance sheet.

Business segments

Radar and Fire Control Systems (56.55% of turnover in FY25)

This is the largest segment. Data Patterns designs, develops, manufactures and tests ground-based and airborne radar systems. Products include air defence fire control radars, precision approach radars, bi-static radars for deep space surveillance, multi-function fire control radars for fighter aircraft like the Su-30 and MiG-29, maritime patrol radars and space surveillance and tracking radars.

The end markets are the Indian Air Force, Indian Navy, Indian Army, DRDO, ISRO and export customers in Europe. The segment has the highest share of revenue because radars are high-value systems that typically run into tens of crores per unit. The company has built a complete radar design capability in-house, including the software, signal processing, mechanical structures and cooling systems - something few Indian private companies can claim.

Avionics and Electronic Warfare (28.97% of turnover in FY25)

This segment covers glass cockpits, mission computers, large area displays, electronic warfare suites (ESM, ELINT, COMMINT), self-protection jammer pods, radar warning receivers and advanced sensors like infrared search and track for fighter aircraft and helicopters.

The main customers are HAL, the Indian Air Force, DRDO and the LCA and AMCA programs. This is the segment where Data Patterns has invested heavily from its QIP funds, particularly in developing the self-protection jammer pod for Su-30 aircraft, which is now in advanced testing. The jammer pod, called Talon Shield, is based on AESA technology and is designed to protect aircraft from enemy radars by detecting and jamming radar signals with 360-degree coverage.

Communication Systems and Automatic Test Equipment (5.91% of turnover in FY25)

Data Patterns manufactures software defined radios (SDR) for airborne and manpack applications, V/UHF and UHF SATCOM systems, automatic test equipment for missile systems and other defence platforms, and seeker subsystems for missile programs including BrahMos.

The end markets are DRDO, BrahMos Aerospace, the Indian Armed Forces and export customers. The BrahMos seeker is a particularly important product in this segment. It is an active radar homing seeker for the BrahMos supersonic cruise missile. The development contract has been executed and flight trials completed. Production orders are expected in FY27.

Services and Support (around 9% of order book in FY25)

The company provides annual maintenance contracts (AMC), lifecycle support and field engineering services for delivered defence systems. The largest service contract is with BrahMos Aerospace for fire control systems that Data Patterns has been supplying since 2006. These are comprehensive AMCs spanning 3-5 years, billed yearly. The service business provides recurring revenue and improves cash flow visibility, though it is still a small portion of the overall business.

Products and business detail

Data Patterns' product portfolio is broad and deeply technical. Here are the key products with their end users:

Air Defence Fire Control Radar (ADFCR) - A ground-based air defence system designed for short to very short range threats in all weather. It includes the Phantom Hunter X-Band Search Radar and Phantom Tracker Ka-Band Track Radar. Used by the Indian Army and Air Defence units.

Transportable Precision Approach Radar (TPAR) - Land Safe - An X-band radar using phased array technology with electronic beam steering. It guides aircraft for landing in bad weather. The first unit was exported to a European customer and successfully completed site acceptance. This is a landmark export for a fully developed Indian radar system.

Multi-Function Fire Control Radar for Su-30 and MiG-29 - Solid state X-band radars with active phased array technology for target detection, tracking and data provision to avionics in air-to-air, air-to-ground and air-to-sea modes. These are development programs aimed at upgrading Indian fighter aircraft.

Talon Shield Jammer Pod for Su-30 - An airborne self-protection jammer pod based on AESA technology. Installed at both wings for 360-degree coverage. The IAF has evaluated the product and flight testing is the next step. The company expects this to lead to significant production orders.

Maritime Patrol Radar (MPAR) SWIFT1100 - A versatile maritime surveillance airborne radar with compact design and electronic scan. Covers 360 degrees in azimuth. Used by the Indian Navy on Dornier 228 aircraft.

BrahMos Seeker (Active Radar Homing Seeker) - The seeker for the BrahMos supersonic cruise missile. Successfully flight tested. Development contract executed, production orders expected in FY27. This is a high-value program with potential for hundreds of units.

Alpha Radar (S-Band Space Surveillance and Tracking Radar) - One of the largest radars built in India, housed in a 20-metre spherical radome. Used for tracking and discrimination of deep space targets. Built for ISRO/DRDO.

Bravo Radar (UHF Bi-static Radar) - A fully digital beam forming continuous wave phased array radar for detection of deep space targets. Implemented as a turnkey project for DRDO.

SDR Next Generation System - A two-channel programmable software defined radio for supersonic aircraft, providing V/UHF and UHF SATCOM communication with multiple waveforms. Used by the IAF.

Glass Cockpit / Large Area Display for LCA Mk2 - Described by the company as the thinnest system in the world, like an F-35. This is for HAL's LCA Mark 2 program and positions Data Patterns as a key avionics supplier for India's next generation fighter.

Anti-drone systems - The company has repositioned some of its radar and ESM products to address drone detection, spoofing and jamming. These are in advanced development.

Manufacturing and certifications - Data Patterns manufactures at its single plant in Siruseri, Chennai. The plant holds multiple management system certifications: ISO 9001:2015 for quality, AS9100D for aerospace quality, ISO 27001:2022 for information security, ISO 14001:2015 for environment, and ISO 45001:2018 for occupational health and safety. The company is building additional factory space to scale production.

Buying relationship for customers - The procurement process for defence electronics is long and multi-layered. The end users - Army, Navy, Air Force - specify requirements. DRDO often develops the system and then tenders subsystems. Data Patterns competes in open tenders, limited tenders and single vendor situations. The company's strategy is to develop complete systems with in-house IP so that it can qualify for single vendor contracts. As the MD said, "We effectively participate in MOD tenders. It is essential for companies to have products that are already developed and internally audited." The switching costs are high: once Data Patterns' product is accepted and deployed, the customer relies on the company for spares, upgrades and AMC. Contracts are typically structured with milestones and advances, but payment cycles can be long due to government processes. The cash conversion cycle was 365 days in FY26, reflecting these realities.

Customers

Data Patterns' customer base is almost entirely government and public sector enterprises. The list includes:

- **Ministry of Defence (MoD)** - the primary customer for strategic systems
- **DRDO** - a long-term development partner; Data Patterns has worked with DRDO for 25 years
- **Hindustan Aeronautics Limited (HAL)** - for avionics, EW and cockpit systems on LCA, Su-30, AMCA
- **Bharat Electronics Limited (BEL)** - for radar and EW subsystems
- **Electronics Corporation of India Limited (ECIL)** - for electronic warfare orders
- **BrahMos Aerospace** - for fire control systems, seekers and AMC contracts
- **Indian Air Force** - direct supply of radars, EW systems and seekers
- **Indian Navy** - maritime radars and shipboard systems
- **Export customers** - a regular repeat customer in the UK (described as "predictable business, monthly deliveries") and a European country for the TPAR

Concentration risk - There is no single private customer. All are government or PSU entities. This concentration means the business is dependent on government procurement cycles and budgets. However, it also means the

customer base is stable and the contracts, once won, are large. The MD acknowledged: "these are all government customers. So, I can't predict for them."

Single vendor status - The company has achieved single vendor status on several products based on already delivered and accepted systems. In the May 2026 concall, management mentioned "additional single vendor contracts based on already supplied products" worth INR1,900 crores expected to fructify during FY27. This is a key advantage: when Data Patterns is the only qualified supplier for a product, competition is eliminated and the customer has no choice but to award the contract to them.

Contract structure - Contracts are a mix of development and production orders. Development contracts have longer cash conversion cycles. Production orders are typically shorter cycle but still subject to customer acceptance delays. Advances are common from government customers, which helps fund working capital. The company does not rely on bank borrowings - it remains debt-free.

Competitive landscape

Industry structure - The Indian defence electronics industry is fragmented but undergoing rapid transformation. Historically, the market was dominated by DRDO and the DPSUs (BEL, HAL, ECIL). Private sector participation was limited. Over the last decade, the government has opened up defence procurement to private Indian companies, creating a new competitive dynamic.

Data Patterns sits at the high end of this market - designing complete systems rather than just components. The competitive landscape can be divided into three tiers:

Tier 1: Foreign OEMs - Companies like ELTA Systems (Israel), Thales (France), Saab (Sweden) and other global defence majors. These companies have mature products that have been proven in combat. They compete in Indian tenders by partnering with Indian companies to meet Make in India requirements. The MD noted: "People tie up with foreigners, and we offer the products in India." Data Patterns cannot compete on product maturity against these incumbents, but it competes on cost, delivery speed and indigenous IP.

Tier 2: Indian DPSUs and DRDO labs - DRDO's LRDE (Electronics and Radar Development Establishment) develops radars like the Uttam AESA. HAL has its own avionics capabilities. These organisations are both customers and potential competitors. The MD acknowledged: "DRDO is also doing their own products in these areas." Data Patterns positions itself as a complement rather than a direct competitor to DRDO, but the reality is that for some programs, DRDO's in-house development can pre-empt private sector participation.

Tier 3: Other Indian private companies - The most direct peer is Astra Microwave Products Limited. The MD noted in the May 2026 concall: "Astra Microwave is also like in line with providing more on complete system similar to us." Other Indian companies are entering radar and EW space, but Data Patterns claims a head start because of its two-decade investment in building complete system capabilities. The MD explained: "There are a number of companies talking radars and EW. We are not developing all the portions of the radars. There still has to be a collaboration or a number of companies have to do these parts to build a system."

Where Data Patterns wins - The company wins when it is already ahead with a developed product that the customer needs urgently. Because the company invests its own money in product development before orders come in, it can offer a product that is ready for trials and qualification when the tender opens. This is a deliberate strategy: "We effectively participate in MOD tenders. It is essential for companies to have products that are already developed and internally audited." This approach reduces the customer's risk and gives Data Patterns a timing advantage over competitors who must develop after receiving an order.

Where Data Patterns loses - The company loses when there is an entrenched foreign OEM with a proven product that the customer prefers. The MD gave the example of the maritime patrol radar for the Dornier 228: "government decided to import it from ELTA Radar." Data Patterns had developed its own MPAR (SWIFT1100), but DRDO's flight testing was not completed in time, and HAL opted for the import. Similarly, on the LCA Mk1A EW suite, Data Patterns' RWR was flying well, but the government chose to import from ELTA. The company's products face a tough battle against established foreign alternatives that have decades of operational history.

Industry

Demand drivers - The primary driver is India's growing defence budget and the government's push for indigenisation under Make in India and Atmanirbhar Bharat. The defence budget for FY25-26 is INR 6.81 lakh crores (US$78.57 billion), with a capital outlay of INR 1.9 lakh crores. Importantly, the share allocated for "other equipment" including radars, electronic warfare, missiles and advanced electronics has increased sharply. The MD noted in the Feb 2026 concall: "The sharp rise in allocations for other equipment, including radars, electronic warfare systems, missiles and advanced electronics clearly signals a focus on new age defence technologies."

Geopolitical tensions are also a driver. Post "Operation Sindoor" (a reference to the 2025 border conflict with Pakistan), the government accelerated procurement of indigenous equipment. The MD said: "Post the Operation Sindoor, we are witnessing heightened urgency from the government to procure and deploy indigenous defense equipment." This urgency is leading to faster tender processes and a preference for ready products.

Globally, the defence industry is entering a multi-decade investment cycle. The MD in May 2026 said: "the global defence industry is entering a multi-decade investment cycle driven by rising geopolitical uncertainties, accelerated modernization programs and increasing focus on self-reliance in defence manufacturing." This creates export opportunities for Indian companies with unique IP, especially in Europe and NATO countries that are increasing their defence spending.

India's place in the global supply chain - India imports 70-80% of its defence requirements. The MD stated this bluntly: "India actually imports more than 70%, 80% of our requirements." The government's aim is to reverse this. The 74% FDI through automatic route and the positive indigenisation lists are opening up opportunities. Indian private companies like Data Patterns are moving up the value chain from low-cost manufacturing to IP-driven product development. This means they can compete not just for Indian contracts but also for global co-development and export opportunities.

Import substitution - This is the single biggest opportunity for Data Patterns. The company's entire strategy is built on replacing imports with Indian-designed systems. The MD said: "we want to build products in India, increase the total addressable market and then compete. There's no point in my saying INR3 lakh crores is going to be spent in India on defence capex because we cannot address those INR3 lakh crores. So, we have to look at more what is addressable by us." The company is focused on products where no Indian private sector alternative exists - airborne radars, electronic warfare suites, jammer pods, seekers. These are the "gaps which is filled by others and probably filled by foreign company OEMs."

Regulation - The defence sector is heavily regulated. Foreign trade with India is subject to government approvals. The government's policy on positive indigenisation lists (where certain items can only be procured from domestic sources) is favourable. However, the procurement process can be slow, with multiple layers of approval and lengthy field evaluation trials. The MD described it as: "It is a very hard way of growing."

Cyclicality - The business is not cyclical in the economic sense, but it is subject to government procurement cycles. Order inflows can be lumpy. The company has tried to manage this by maintaining a diversified order book across

multiple programs and by seeking recurring service contracts. The MD noted: "We are trying to see whether advanced action on design, advanced action on production can happen so that we can scale the business substantively in the next coming years." Execution visibility is good once orders are in hand, but the timing of new orders remains unpredictable.

Growth triggers

- Strong order inflows, with the company reporting that order inflows in FY26 increased 216% year-on-year, driven by demand across radar, EW, avionics and service segments. The order book including negotiated orders reached a new high of approximately INR2,062 crores (Q4 FY26 concall, May 2026).
- Additional single vendor contracts worth approximately INR1,900 crores based on products already supplied and accepted by customers are expected to crystallise into firm contracts during FY27, providing a repeat-order pipeline without competition (Q4 FY26 concall, May 2026).
- EW suites including self-protection jammer pods for Indian fighter aircraft have been well received by the IAF, and flight testing is the next step. Revenue from these is expected in the medium term, with the total requirement for such pods running into a sizeable programme (Q4 FY26 concall, May 2026).
- BrahMos seeker development trials have been completed, a development contract is under execution, and management expects production orders to start flowing within the next 4–5 months. A production line is being set up (Q3 FY26 concall, Feb 2026).
- The consortium with Bharat Forge for the AMCA production contract has been shortlisted to receive the RFP. Award is expected within 3–6 months (Q3 FY26 concall, Feb 2026).
- Export momentum is improving: the Transportable Precision Approach Radar (TPAR) delivered to a European customer has completed site acceptance, and additional inquiries are coming in from Europe and the US. Co-development discussions with global OEMs are advancing (Q4 FY26 concall, May 2026).
- Anti-drone detection, spoofing and jamming products (both radar and ESM) are in advanced development and are expected to generate revenue in the medium term (Q4 FY26 concall, May 2026).
- New product development in airborne radars (surveillance and fire control) and maritime applications, previously the domain of foreign OEMs, is progressing and expected to open up both domestic and export orders over the next few years (Q4 FY26 concall, May 2026).

Key risks

- Dependence on government procurement cycles: The company's entire order book is with MoD, DRDO and PSUs. Contract finalisations, acceptance tests and payments frequently get delayed due to internal government processes, making revenue timing unpredictable. Management itself acknowledges it cannot predict for government customers (Q4 FY26 concall, May 2026).
- Long working capital cycle: The cash conversion cycle stood at 365 days in FY26. Development contracts require extended periods before customer acceptance and payment. This ties up capital and can strain liquidity even though the company remains debt-free (Q4 FY26 concall, May 2026).
- Supply chain disruptions: Critical electronic components are sourced internationally. Geopolitical tensions, trade restrictions or shortages can delay production and increase costs. The company imports a meaningful portion of

its bill of materials.

- Competitive intensity: Other Indian companies (e.g., Astra Microwave) are transitioning to complete systems, and foreign OEMs are partnering with Indian firms for Make-in-India tenders. This could compress margins or reduce win rates on competitive bids (Q3 FY26 concall, Feb 2026).
- Technology obsolescence: Defence technology evolves rapidly. If the company does not continuously invest in R&D and upgrade its product portfolio, its existing products could become less competitive (AR FY25 SWOT analysis).
- Customer acceptance delays: Revenue recognition is tied to formal customer acceptance. Delays in inspections or approvals can push revenue into later quarters, as seen in Q1 FY26 where ~₹27 crores of shipments were stuck awaiting customer sign-off (Q1 FY26 concall, Aug 2025).

Walk the talk

Management has built credibility by delivering on its stated guidance consistently across FY26.

In Q1 FY26 (August 2025), the company guided for 20% to 25% revenue growth and EBITDA margins of 35% to 40% for FY26. By the full year result (May 2026), the company had delivered revenue growth ahead of the upper end of that range and EBITDA margins at exactly 40%, meeting the guidance.

> *"We remain firmly on track to meet our stated guidance of 20% to 25% revenue growth."*
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> **CMD, Q1 FY26 CONCALL (AUG 2025)**

The company also reported a 216% year-on-year increase in order inflows to ₹1,121 crores and an order book of ₹2,062 crores including negotiated orders, demonstrating that the strong pipeline discussed earlier was being converted.

On the export front, management had flagged the TPAR export to a European customer as a key milestone in Q2 FY26 (Nov 2025). By Q4 FY26 (May 2026), the radar had successfully completed client acceptance, and additional inquiries were being received, showing the export strategy is gaining traction.

> *"The Transportable Precision Approach Radar, TPAR, exported to European customer has successfully completed client acceptance."*
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> **CMD, Q2 FY26 CONCALL (NOV 2025)**

Negotiated orders worth ₹550 crores were discussed in Q2 FY26 (Nov 2025) as expected to convert within 2–3 months. While not all converted in that timeline, by Q4 FY26 (May 2026) the negotiated order book had grown to ₹1,090 crores, reflecting both conversion of earlier items and addition of new opportunities.

> *"orders negotiated of INR1,000-odd crores... some of them we have got the contract. And that number now stands at INR1,090 crores."*
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> **CFO, Q4 FY26 CONCALL (MAY 2026)**

On the BrahMos seeker, management had indicated in Q2 FY26 (Nov 2025) that negotiations were completed and the contract should come. By Q3 FY26 (Feb 2026), trials were completed and a development contract had been received. The pathway to production orders was laid out for FY27.

> *"We've completed the seeker trials. We've got a development contract with marginal differences, which go into production orders."*
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> CMD, Q3 FY26 CONCALL (FEB 2026)

The company also flagged a pipeline of single vendor contracts worth ₹1,900 crores in the May 2026 call, expected to fructify during FY27. While this is a forward-looking statement rather than an outcome, the consistency of earlier pipeline disclosures turning into orders lends weight to it.

Scenarios

Bull case

The defence ministry accelerates procurement timelines in response to heightened geopolitical tensions. Single vendor contracts worth ₹1,900 crores convert quickly, pushing the order book well above ₹3,000 crores. BrahMos seeker production orders start flowing by early FY27, and the EW jammer pods complete flight testing and secure a large production order. Export orders from Europe and the US scale up meaningfully as global defence spending rises. Revenue growth sustains above 25% while margins remain in the high 30s. The company builds a 3-year revenue visibility and scales past ₹1,500 crores in revenue within two years, establishing itself as the premier indigenous defence electronics systems house.

Base case

Order inflow momentum continues at the current pace, with negotiated orders converting steadily through FY27 and a few single vendor contracts getting signed. Revenue growth of 20% to 25% is achieved each year. Margins stay around 38% to 40% as the product mix remains favourable. BrahMos seeker moves into production but at a modest initial volume. Exports grow gradually, contributing 10% to 15% of revenue. The order book stays above ₹2,000 crores, providing good visibility. Working capital gradually improves to 320–340 days as more production contracts are executed. The company continues to invest in new products, keeping its TAM expanding.

Bear case

Government procurement cycles slow down due to bureaucratic delays or budget reallocations. Several of the single vendor contracts get pushed to FY28 or beyond. Competitive pressure from other Indian players and foreign OEMs leads to lower win rates on tenders and margin compression on new orders. The EW jammer pod flight testing takes longer than expected, deferring a large revenue opportunity. The BrahMos seeker production order gets delayed beyond FY27. Revenue growth slips to the low teens, and margins dip below 35% due to a higher mix of competitive contracts. Working capital remains elevated above 365 days. The valuation derates as investors re-assess the growth trajectory.