

# Data Patterns ( India ) Limited

Investor Presentation

Q4 and FY23

May 2023



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Corporate Overview



**Mr. Srinivasagopalan  
Rangarajan**  
*Promoter, Chairman &  
Managing Director*

*'This year we achieved excellent results with a 32% YoY growth in PAT. Our order book is up 94% at Rs 924 crores. We have also made significant investments on human capital and infrastructure during the last year. As communicated at the time of IPO, we have smoothened the business. Accordingly, the impact of Q4 on revenues have reduced from 70% in FY20 to 41% currently. As a result, we can see that full year growth is now more representative of our performance. Aligning with the sectoral opportunities, we are actively pursuing new product development. With the successful completion of the QIP of Rs.500 Cr., we have positioned ourselves for substantial revenue growth through new products in the domestic and international markets in the coming years.'*

# FY23 Highlights: Revenues up 1.5x; Highest ever order inflow

DATA PATTERNS

Strong order book as on 31<sup>st</sup> March 2023 at Rs 9,241 mn

Revenue grew 46% YoY to Rs 4,534 mn  
EBITDA showed 22% growth at Rs 1,718 mn

Gross Margins at 62% and EBITDA Margins at 38%

Strong Balance Sheet; Net Debt Free Company

Return Ratios - RoE and RoCE at 17% and 22% respectively without QIP funds

New Manufacturing facility is commissioned in Q4FY23

Successfully completed QIP of INR 5,000 million – funds to be utilized for new product developments (Radar, EW, Communication and satellite)

Order inflow in FY23 of Rs 9,014 mn, grew 3x YoY

PAT at Rs 1,240 mn, 32% increase YoY

Revenue CAGR: 36%; EBITDA CAGR: 61% over FY19-FY23

Cash and cash equivalents – Rs 6,825 mn

Rs 181 mn Dividend Paid ; DPS was Rs 3.5

FY23 Recommended Dividend - Rs 4.50

## Growth Drivers:

- *Created additional world class infrastructure to deliver complete systems*
- *Government policies for Make in India*
- *Investment in complete products through QIP Proceeds*

# What We Look to Achieve in Next Two Years

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

Strong Topline  
Growth: 25%+ CAGR

Sustainable High  
EBITDA Margins:  
~40%

Maintain Net Debt  
Free Status

Maintain Strong Order  
Pipeline

***High Returns to Shareholders: ROE and RoCE - 20%+***

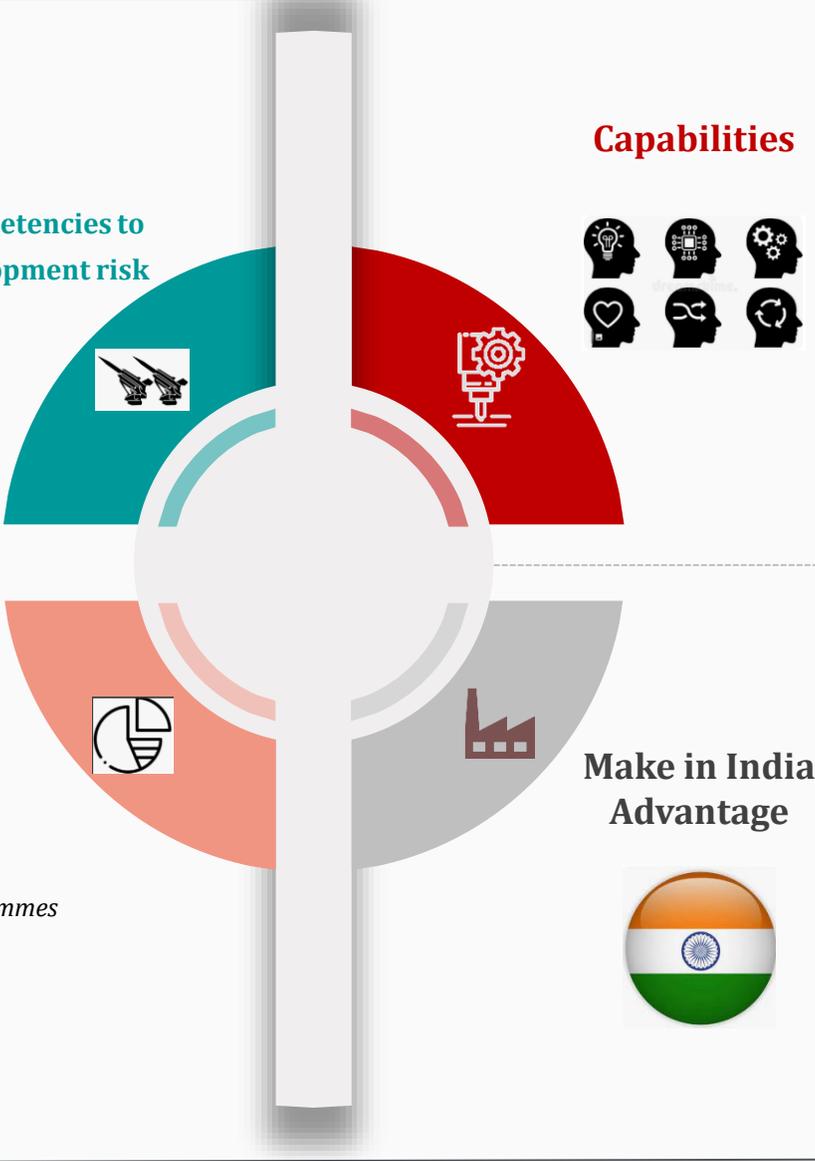
### Model to Proprietary Product Development

### Key Differentiators for Data Patterns

#### MOD Business



- 1 Larger TAM for Data Patterns**  
 MOD tenders open to industry  
 GOI committed to buy from Indian companies  
 Increasing Indigenization
- 2 Revenue Scalability and Sustainability**  
 Potential to bid for larger full systems contracts  
 Re-use developed products for global expansion/ multiple programmes
- 3 Better Margins**  
 Cost advantage given products developed in India



- Leveraging existing competencies**
- Leveraging existing competencies across target product categories with significant lead and vendor credentials
  - Building Blocks in place for reuse across products and to crunch timelines and costs
  - Focus on Key product categories with significant presence i.e Nano/Micro Satellites Radars, ESM and Communication systems

- Alternative to foreign OEM products**
- Cost advantage compared to players who may have to collaborate with foreign OEMs
  - Better pricing can lead to better win rates
  - Products developed in India - better PWIN

1

Product	Demonstrated Capabilities	Potential Opportunity
<b>Satellite</b>	<ul style="list-style-type: none"> <li>Designed and launched compete satellite in India</li> <li>Capabilities to design payloads like ESM, Imaging (RF and ESM), other remote sensing, others</li> <li>Comprehensive exposure to Ground stations including Radars and Command control, high speed communication links, etc</li> <li>Implemented capabilities for large satellites</li> </ul>	<ul style="list-style-type: none"> <li>Large market for Defence and LEO satellites (Domestic as well as International)</li> <li>Focus on Micro Satellites</li> <li>Being Made in India – its cost effective</li> </ul>

**Existing Successful development**



Nano Satellite



Antenna Tower



Satellite Integrated Testing



Satellite Internal View



Thapsat Satellite

2

<b>Radars</b>	<ul style="list-style-type: none"> <li>Designed building blocks to complete radars systems in India</li> <li>Re-use already developed building blocks to meet timelines                             <ul style="list-style-type: none"> <li>Building Blocks in Signal Processing, Antenna, Transmit/Receive modules, etc.</li> <li>VHF, S, C and X Band, Gimbal, algorithms, Radar display, consoles, etc</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Focus on Fire Control Radars, X-Band Radars and smaller Radars for UAVs</li> <li>Cost competitive with in-house IP</li> <li>Export Potential</li> </ul>
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**Existing Successful development**



Single Board Computer-Next Gen



Wide Band Digital Receiver



DTRM



Antenna PCB



Antenna Assembly fixture

**3**

Product	Demonstrated Capabilities	Potential Opportunity
<p><b>Electronic Surveillance &amp; Monitoring</b></p>	<ul style="list-style-type: none"> <li>Developed state of the art ESM Receivers from 1MHz to 40GHz</li> <li>Both COMINT and ELINT including DF can be used in                             <ul style="list-style-type: none"> <li>Truck Mounted Systems / UAV Based ESM Systems</li> <li>POD based jammers / Comm Jammers / Stand Off Jammers</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Potential large market with future tenders</li> <li>Requirement across Army, Air Force and Navy</li> </ul>

**Existing Successful development**



Radar Warning Receiver



ELINT DF System



V/U/SHF Monitoring Receiver



VHF/UHF/SHF Receiver Processor Exciter



5 Channel Search Receiver

**4**

<p><b>Communication Systems</b></p>	<ul style="list-style-type: none"> <li>Developed SDR Platform for                             <ul style="list-style-type: none"> <li>Fighter Aircrafts</li> <li>Radio Relay for Airborne Platforms/UAVs</li> <li>Radio Relays</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Military Radars, Radio Relays, etc. are being procured under emergency Fast Track procurement</li> <li>Large volume requirements</li> <li>Requirement across Army, Navy and Air Force</li> </ul>
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**Existing Successful development**



Communication / Data Link



Programmable Radio Hardware Platform Type I & II



Radio Relay

*Order Book as on date is Rs 9,241 mn*

Orders as on  
31<sup>st</sup> March,  
2022  
Rs 4,762 mn



New Orders  
in FY23  
Rs 9,014mn



Orders  
Executed  
Rs 4,535mn



Order Book  
as on 31<sup>st</sup>  
Mar 2023  
Rs 9,241mn

**Current order book Rs. 10,080 mn including the orders finalised in Apr and May 2023**

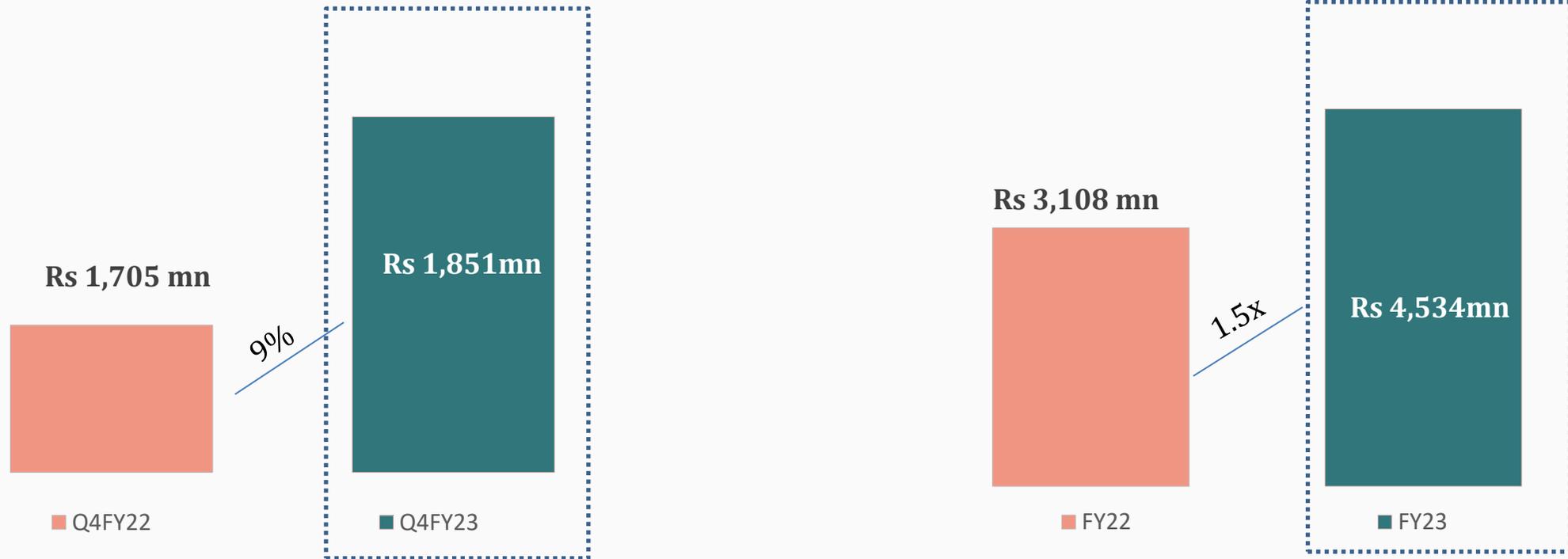
***We are participating in large value tenders with MoD under Make 1 and 2 categories.***

# Q4 and FY23: Financial Performance

Particulars (Rs. Mn)	Q4FY23	Q4FY22	Q3FY23	FY23	FY22
Revenue from Operations	1,851	1,705	1,118	4,534	3,108
Gross Profit	1,070	1,108	742	2,825	2,247
<i>Gross Profit Margin (%)</i>	58%	65%	66%	62%	72%
EBITDA	733	875	470	1,718	1,409
<i>EBITDA Margin (%)</i>	40%	51%	42%	38%	45%
Depreciation / Amortization	22	19	21	84	66
EBIT	711	856	449	1,634	1,343
<i>EBIT Margin (%)</i>	38%	50%	40%	36%	43%
Other Income	38	25	19	92	40
Finance Cost	28	35	21	77	110
PBT	721	846	446	1,648	1,273
Tax expense	168	230	113	408	334
Profit(Loss)for the period	554	616	333	1,240	939
<i>PAT Margin (%)</i>	30%	36%	30%	27%	30%
EPS (Rs)	10.5	12.7	6.4	23.8	19.5

# Revenue: 1.5x in FY23

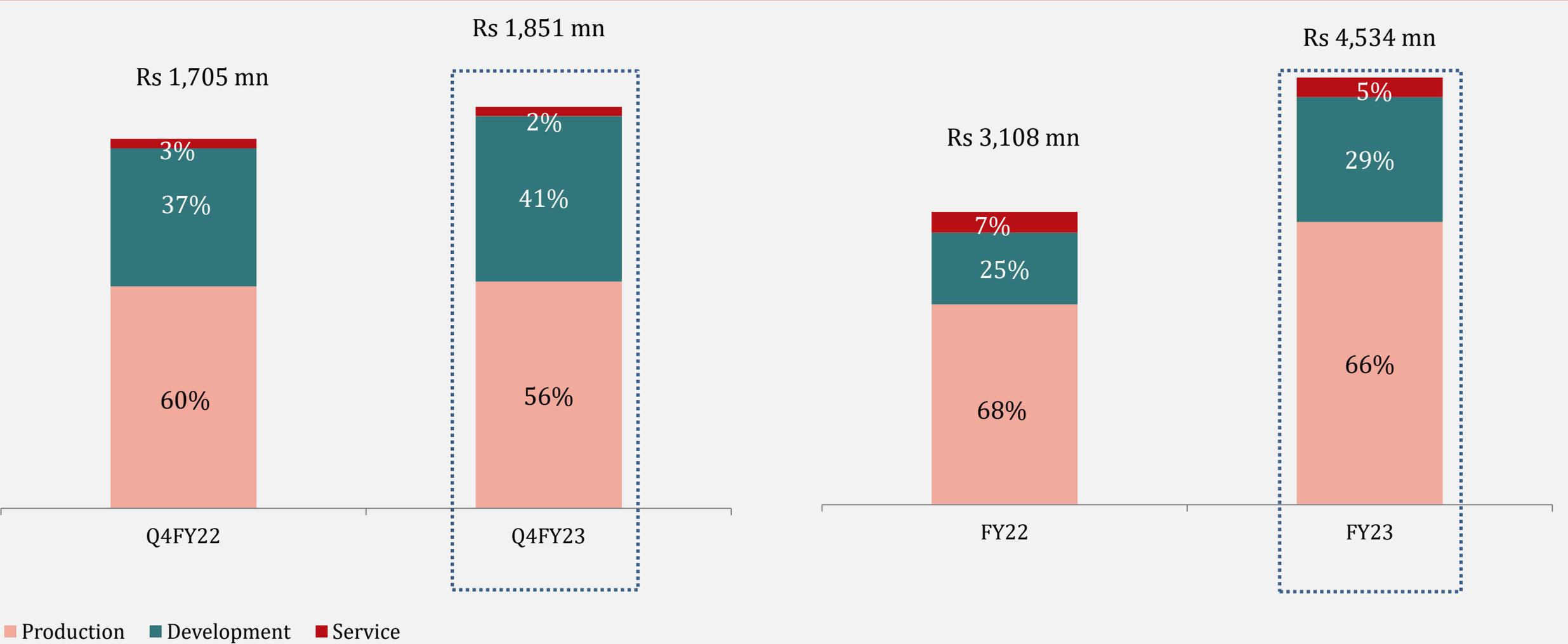
## Revenue – Q4FY23 and FY23



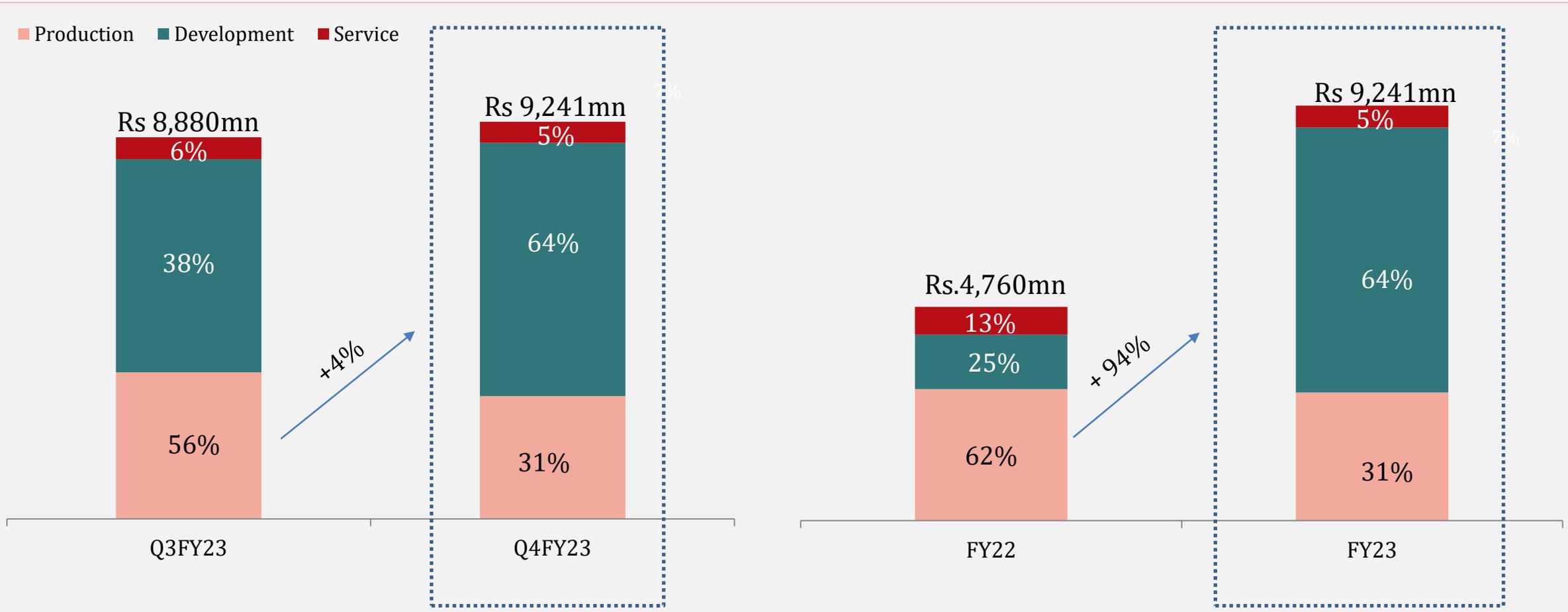
- Business Smoothened: Less Dependency on Q4
- Annual Numbers are more representative of business than quarterly numbers

## Revenue growth across all the three categories

Revenue in INR mn



# Order Book grew Exponentially



- **Developmental contracts/order book translates to strong production revenues**
- **Company is focussing on growth driver for medium and long term by taking several development contracts.**

# Q4FY23: Revenue Breakup

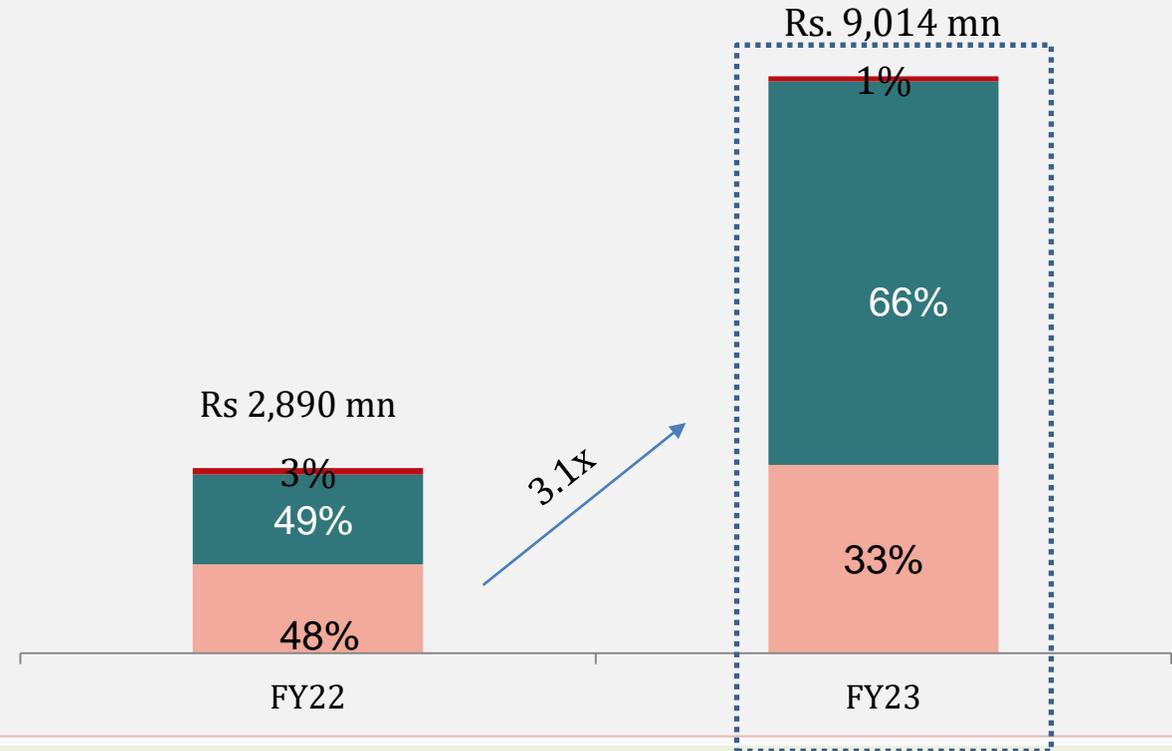
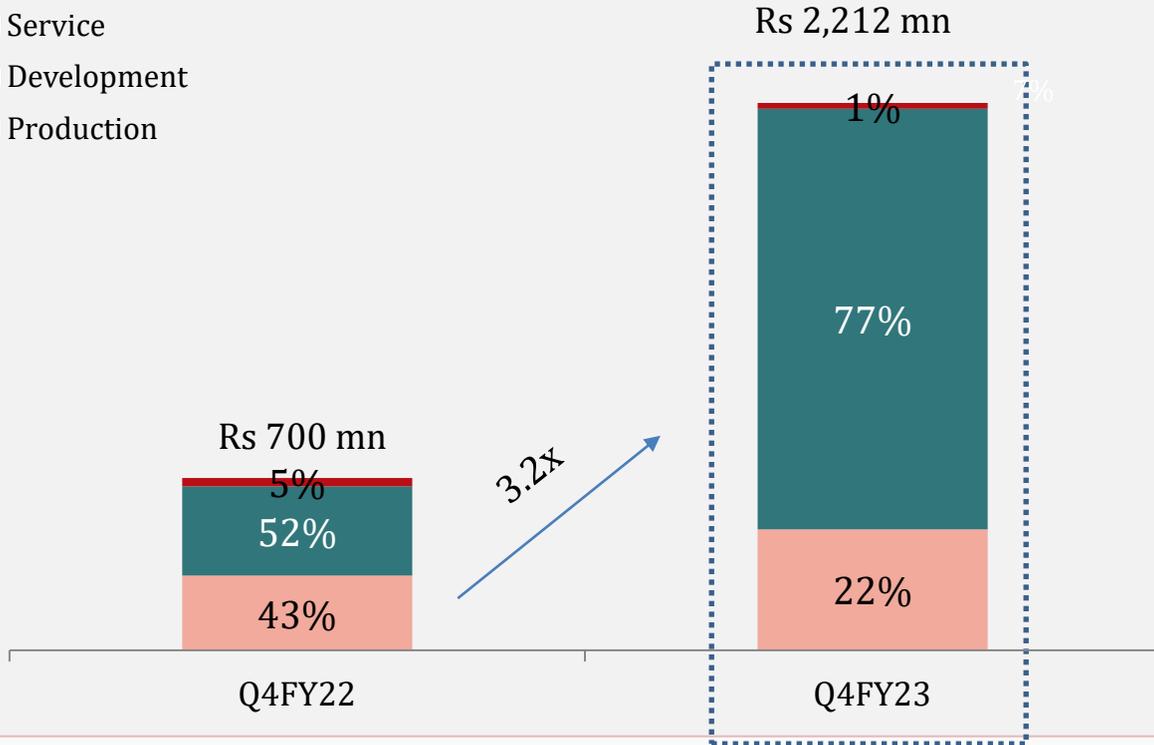
Product	Rs mn
ATE	338
AVIONICS	103
Nano Satellite	30
Naval/ Naval System	28
EW	274
Radar	1,000
Radar Processor	12
AMC/Service	65
<b>Total</b>	<b>1,851</b>

Customer	Rs mn
BEL	25
Brahmos	92
DoS	79
DRDO	784
Export	243
HAL	1
MoD	566
AAI	14
Others	47
<b>Total</b>	<b>1,851</b>

# Highest Ever Order Inflow

**Order Inflows - Q4FY23 and FY23**

- Service
- Development
- Production



## Major order received in Q4FY23

Product	Customer	Order Type	Value (Rs mn)
Radar	DRDO	Development	830
EW	DRDO	Development	530
Tank	DRDO	Development	345
ATE	BRAHMOS	Production	41
Avionics	DRDO	Production	68

## Major order received in FY23

Product	Customer	Order Type	Value (Rs mn)
Radar	DRDO	Development	4,489
Avionics	HAL	Production	737
EW	DRDO	Development	530
Tank	DRDO	Development	345
FCS	Brahmos	Production	400

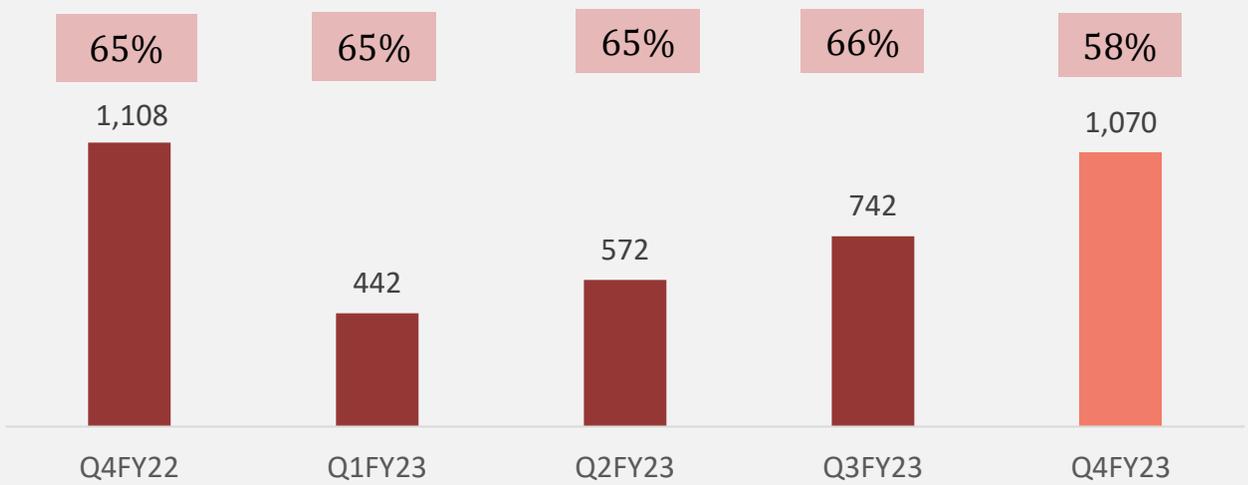
# Robust Performance : Supported by Strong Financials



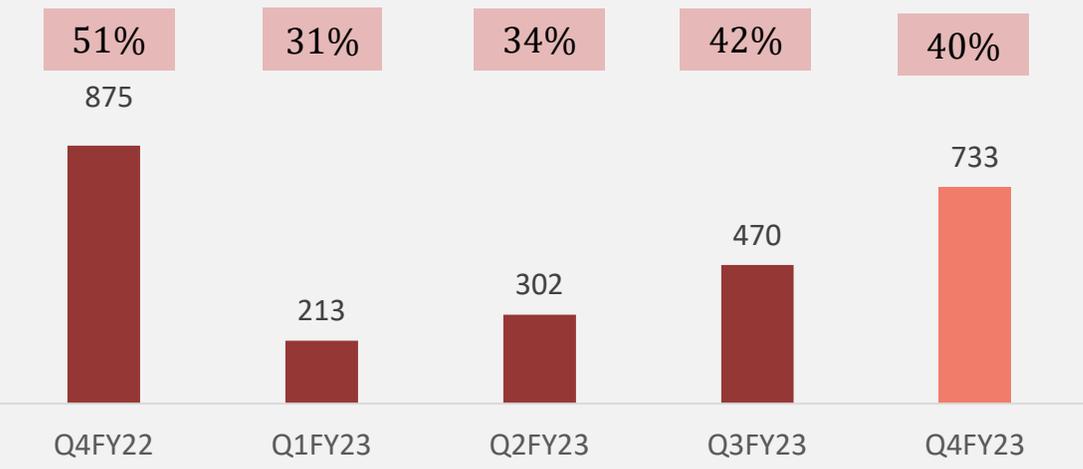
### Revenue (INR Mn)



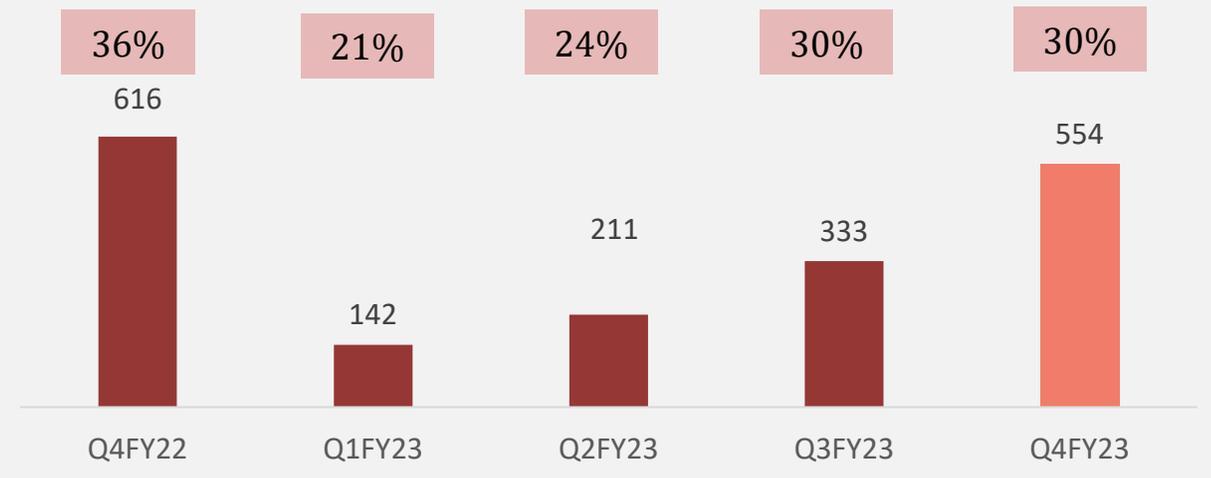
### Gross Profits (INR Mn) and Margins (%)



### EBITDA (INR Mn) and Margins (%)



### Net Profit (INR Mn) and Margins (%)



## Investment in Our People



- ✓ We hired 250+ staff in FY23
- ✓ Plans to hire 100 more engineers in the next year

## Investment in Facility



- ✓ Spent Rs 44 Cr on new facility
- ✓ The facility is operational from March 2023 onwards

## Investment in Technology



- ✓ Successfully completed site acceptance test of 4 Precision Approach Radar.
- ✓ Nominated as Development and Production Partner for Dornier upgrade
- ✓ Actively pursuing new technology development with QIP Proceeds



DATA PATTERNS

**Corporate Overview**

# Data Patterns – One of the fastest growing companies in the Defence and Aerospace Electronics sector in India...

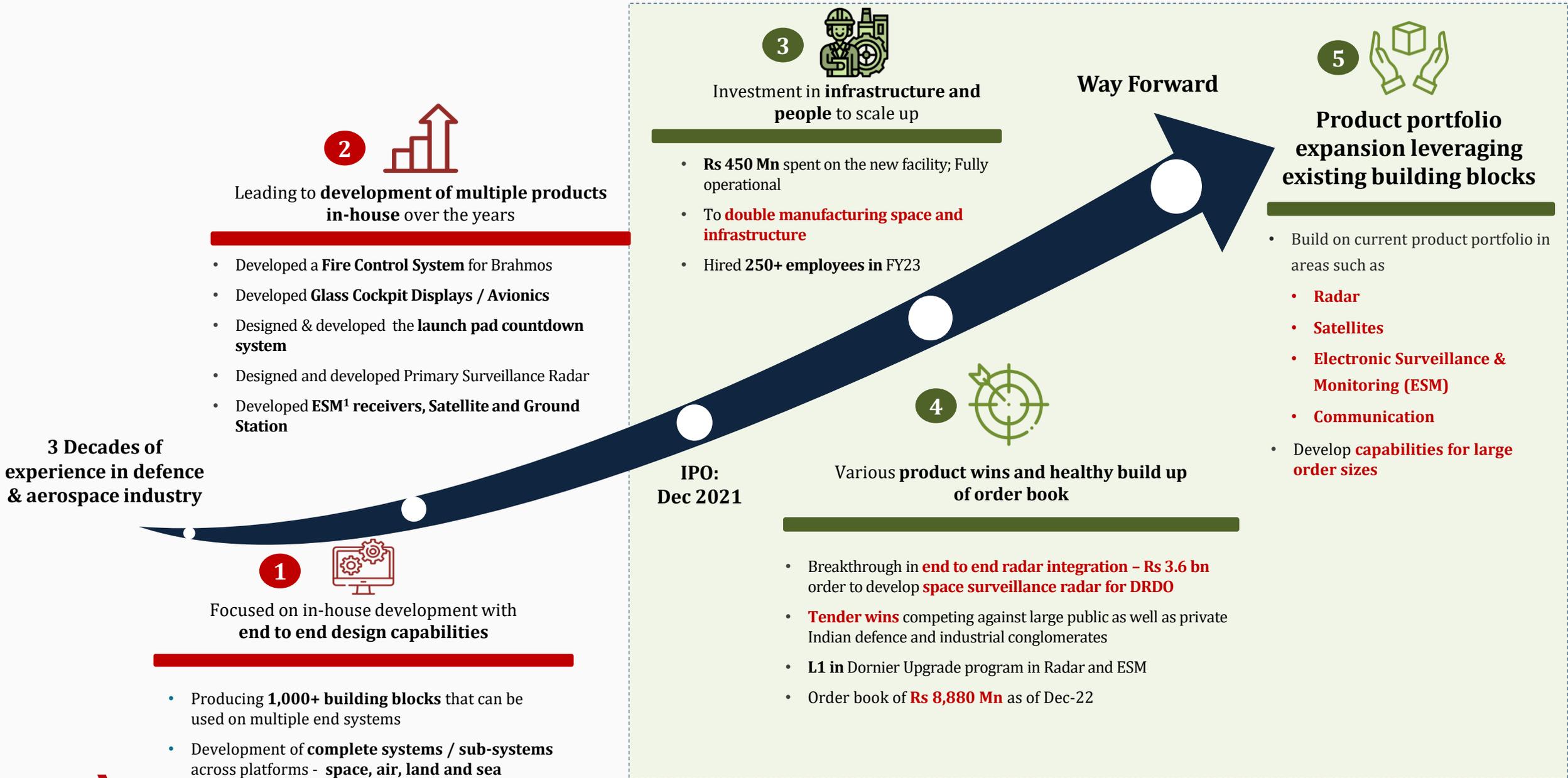
Among the few vertically integrated defence and aerospace electronics solutions providers catering to the indigenously developed defence products industry

<p><b>1</b> Vertically integrated defence and aerospace electronics solutions with end to end capabilities and a large addressable market</p>	<p><b>Defence    Aerospace</b></p>	<p><b>35+</b> Years of experience</p>			
<p><b>2</b> Focused on in-house development and manufacturing facilities led by innovation and design and development efforts</p>	<p><b>Design to Delivery</b></p>	<p>Products supplied for programmes <b>LCA-Tejas, Light Utility Helicopter, BrahMos missile</b></p>			
<p><b>3</b> Beneficiary of shifting procurement trends in Defence – Aatma Nirbhar Bharat , Make in India, new defence acquisition policies among others</p>	<p><b>TAM of USD 4.65 bn by 2030</b> growing at CAGR – 9% from 2020*</p>	<p>Increasing indigenization, Domestic defence procurement, Higher share of electronics in warfare</p>			
<p><b>4</b> Diversified order book with marquee customers along with state of the art manufacturing facilities</p>	<p><b>Rs. 1,787 mn</b>    <i>CAGR – 39+%</i>    <b>Rs. 9,241 mn</b> Order book as of Apr'18    Order book as on March'23</p>				
<p><b>5</b> Experienced management team and skilled workforce</p>	<p><b>Many senior personnel associated with Company</b> for more than <b>2 decades</b></p>	<p><b>1,130</b> employees with more than <b>700</b> qualified engineers</p>			
<p><b>6</b> Excellent Revenue growth in FY23 with margins at normal expected level, EBIDTA margin, ROCE and ROE (FY23) amongst key Indian defence and aerospace companies</p>	<p><b>36%</b> Revenue CAGR (FY19-FY23)</p>	<p><b>62%</b> Gross Margin% (FY23)</p>	<p><b>38%</b> EBITDA% (FY23)</p>	<p><b>22%**</b> RoCE (FY23)</p>	<p><b>17%**</b> RoE (FY23)</p>

**One of the fastest growing companies in the Defence and Aerospace Electronics sector in India**

\*addition of market size of specific industries from the DRHP  
\*\* Without considering QIP funds raised in March, 2023

# Evolving as a product company with a strong lineage



3 Decades of experience in defence & aerospace industry



**1**  
Focused on in-house development with **end to end design capabilities**

- Producing **1,000+ building blocks** that can be used on multiple end systems
- Development of **complete systems / sub-systems** across platforms - **space, air, land and sea**



**2**  
Leading to **development of multiple products in-house** over the years

- Developed a **Fire Control System** for Brahmos
- Developed **Glass Cockpit Displays / Avionics**
- Designed & developed the **launch pad countdown system**
- Designed and developed Primary Surveillance Radar
- Developed **ESM<sup>1</sup> receivers, Satellite and Ground Station**



**3**  
Investment in **infrastructure and people** to scale up

- **Rs 450 Mn** spent on the new facility; Fully operational
- To **double manufacturing space and infrastructure**
- Hired **250+ employees** in FY23

**IPO: Dec 2021**



**4**  
Various **product wins and healthy build up of order book**

- Breakthrough in **end to end radar integration - Rs 3.6 bn** order to develop **space surveillance radar for DRDO**
- **Tender wins** competing against large public as well as private Indian defence and industrial conglomerates
- **L1 in Dornier Upgrade** program in Radar and ESM
- Order book of **Rs 8,880 Mn** as of Dec-22

**Way Forward**



**5**  
**Product portfolio expansion leveraging existing building blocks**

- Build on current product portfolio in areas such as
  - **Radar**
  - **Satellites**
  - **Electronic Surveillance & Monitoring (ESM)**
  - **Communication**
- Develop **capabilities for large order sizes**

## Reusable building blocks

## End-to-end capabilities

**Produces 1,000+ building blocks that can be used on multiple end systems in defence and aerospace**

**Among the few Indian company having design capabilities across the entire spectrum of strategic aerospace and defence electronics solutions<sup>1</sup>**



Building blocks have laid the foundation of own products



Setup the complete system from building blocks, designed in-house with IP



Spreading out the development costs over multiple programmes



COTS Components are fast becoming the building blocks of defence equipment



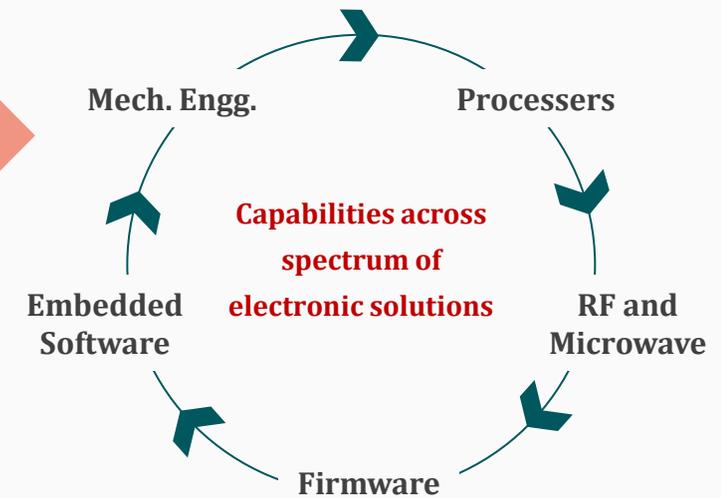
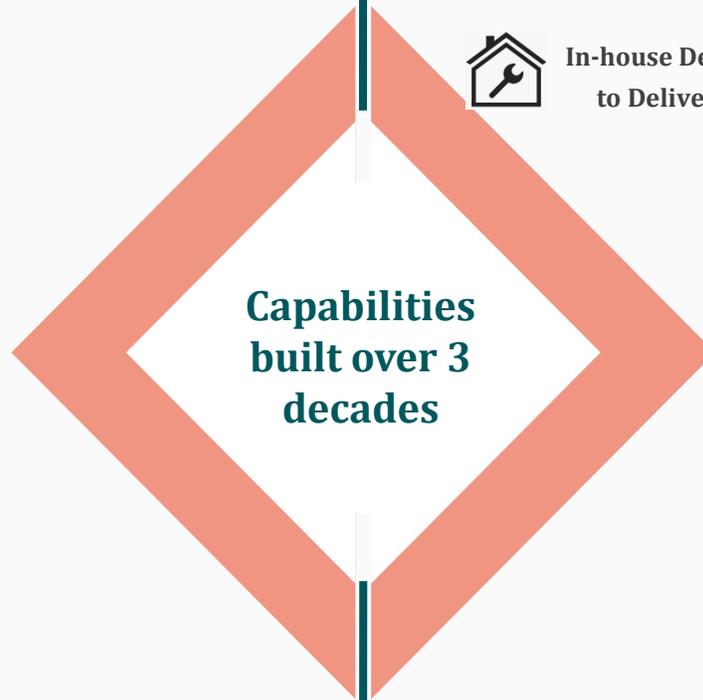
In-house Design to Delivery



Complete systems / sub-systems



Across platforms – space, air, land and sea



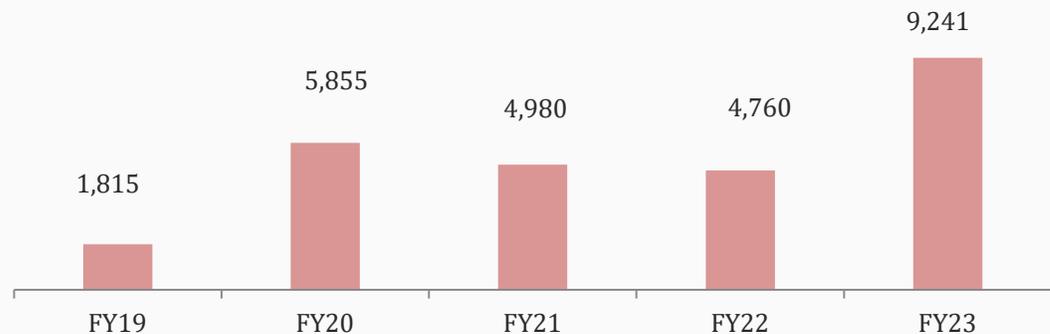
1.. Basis F&S report on "Defence and Space Market" dated 29 November 2021 as included in the RHP Q4 and FY23 Earnings Presentation

# With a Consistent Track Record of Profitable Growth



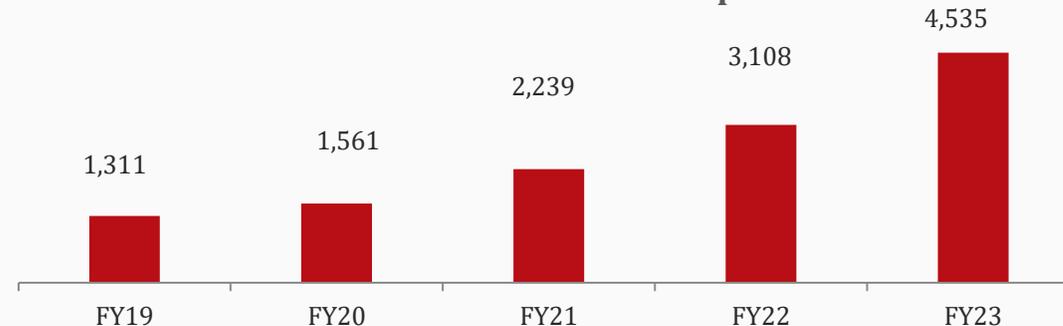
**39%+~ % growth CAGR FY19-FY23**

**Order Book**



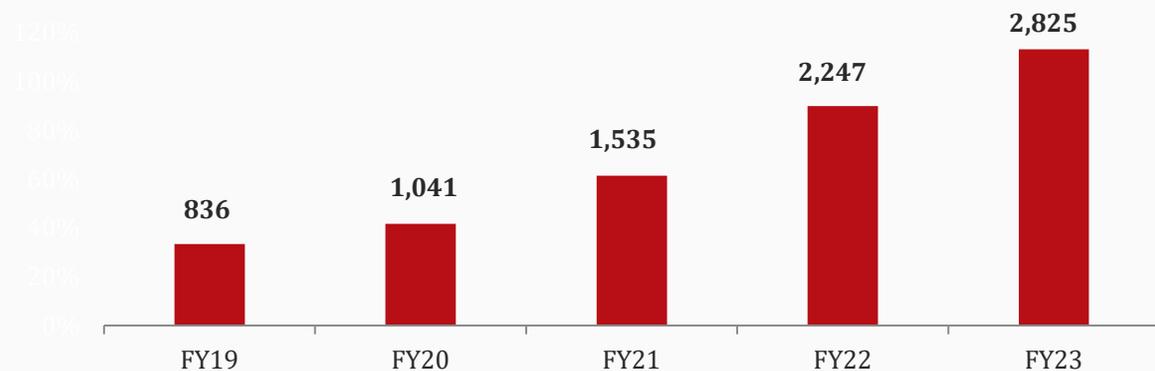
**~ 36% Revenue CAGR from FY19-FY23**

**Revenue from operations**



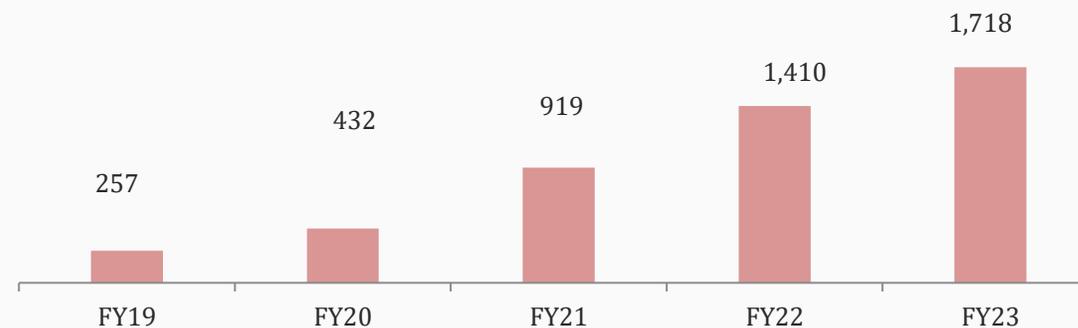
**High Profitability**

**Gross Profit**



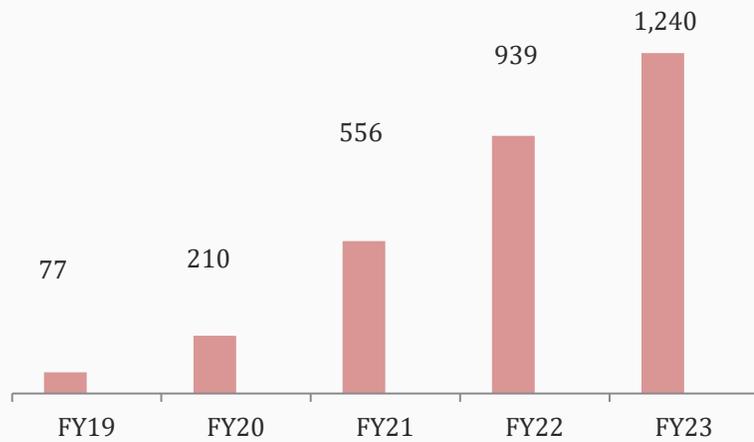
**~ 61% EBITDA CAGR from FY19-FY22**

**EBITDA**



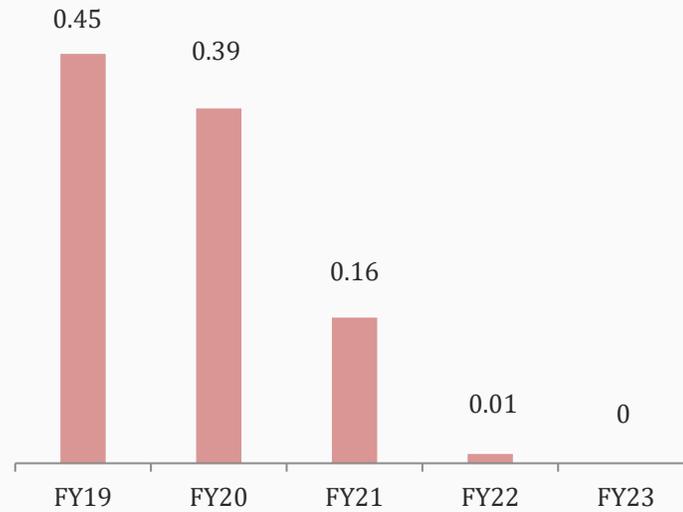
## Improving PAT

Rs mn

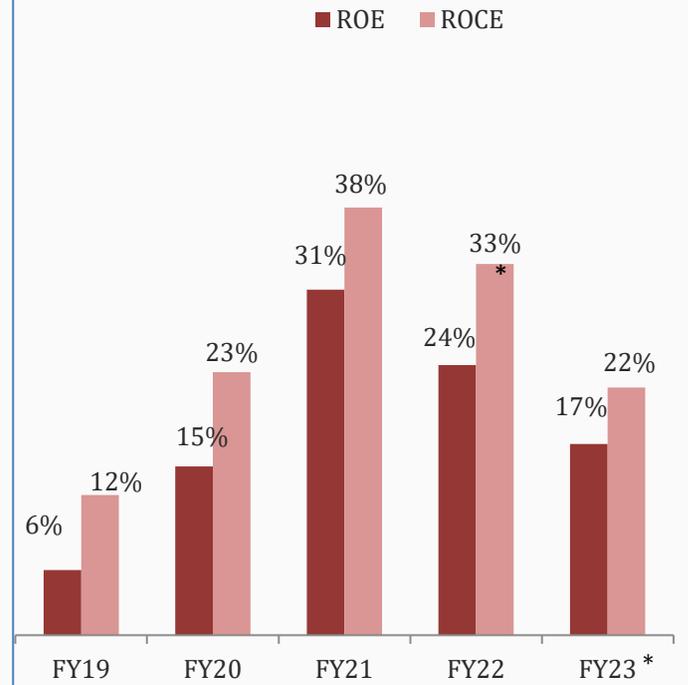


## Lower debt levels/ leverage

### Debt-Equity ratio



## Improving ROE and ROCE

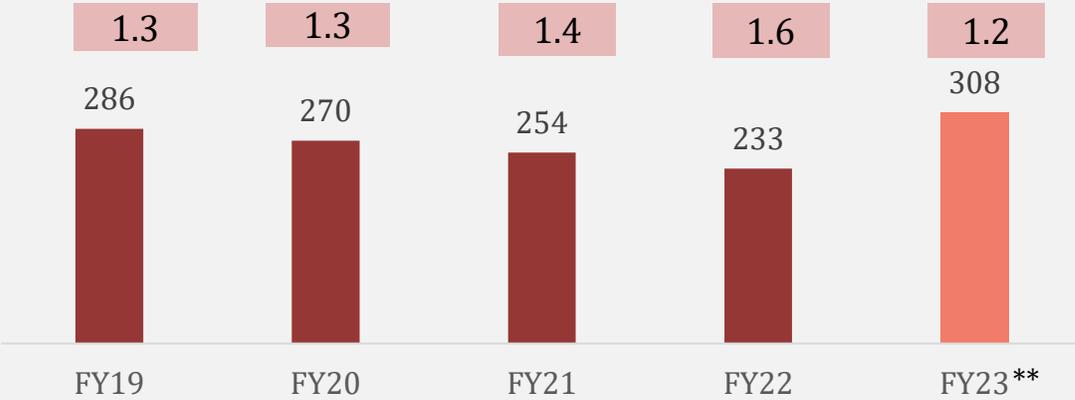


\*Without considering QIP funds raised in March, 2023

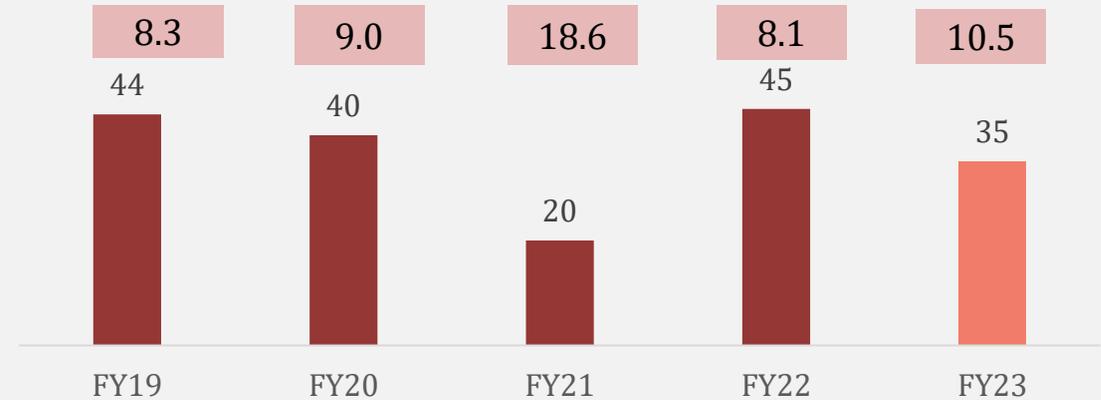
# Well Managed Working Capital



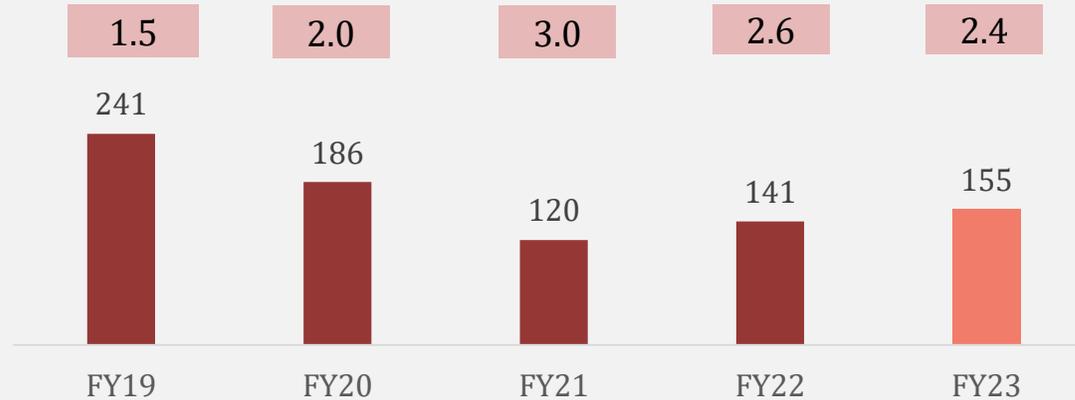
### Debtor Days and T/O Ratio



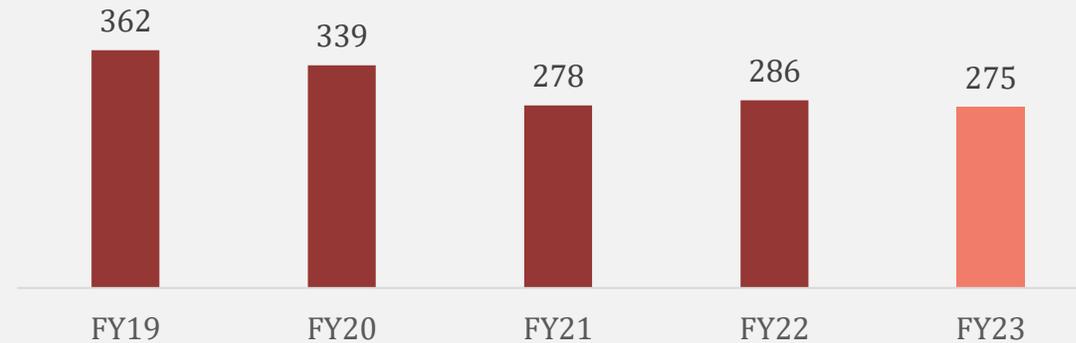
### Creditor Days and T/O Ratio



### Inventory Days and T/O Ratio



### Cash Conversion Cycle\*



\*Cash conversion days is after adjusting advance received from customers  
 \*\*Company has realized Rs. 831 Mn in April 2023 out of March receivables

# Through Well-Invested and State of the Art Manufacturing Facilities



~ 5.75 Acres

Of land in Chennai, SIPCOT area

~ 200,000 sq. ft

Aggregate of built up area of manufacturing facility

~2.81 acres

Land for proposed expansion



## Environmental Certification

- JSS55555

- MIL-STD-461

- MIL-STD-810 including for Highly Accelerated Life Test / Highly accelerated stress screening.

## Key features of manufacturing facility

- ✓ 100,000 class clean room
- ✓ Electronic assembly facility
- ✓ BGA repair work station with display
- ✓ Manual soldering certified to Space grade standards
- ✓ EMS assembly capacity of 600 boards per day
- ✓ Capability to handle complex boards with 22 layer, 6k components and 21k solder points
- ✓ Dedicated 70 work stations for testing modules and small systems
- ✓ Harness preparation of 2k points per day
- ✓ 20 Dedicated Mechanical assembly stations to assemble small and large systems

and various others...

## Our systems and processes are subject to periodic audit by customer such as

- ✓ Indian Government Space Organization
- ✓ Hindustan Aeronautics Limited (HAL)
- ✓ Other Government departments

## Manufacturing facility at Chennai, India



← Expansion →

← Existing Facility Enhancement →

- Large Systems Integration Hangar
- Complete Radar Integration
- Electronic Warfare Vehicle Integration
- Additional Test Facility
- Augmented Environmental Test Infrastructure

- Augmented Design & Development Facility
- Additional Space For Design and Development Resources
- Clean Room for Satellite Integration
- Additional EMS Line
- Multi Ton material handling



EMS Line

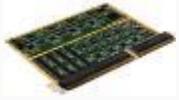


Multizone Reflow Oven



X ray inspection system

# Diverse Product Offering

Category	Select Product offerings	Category	Select Product offerings
<p><b>Commercial off the shelf (COTS)</b></p> 	<p>COTS modules designed in context of reusable building blocks for building Military Electronics systems with a quick turnaround time</p>    <p><i>VPX Multi core SBC</i>      <i>VPX Zynq MPSoC based Quad Core</i>      <i>High Density DIU</i></p>	<p><b>BrahMos Programme</b></p> 	<ul style="list-style-type: none"> <li>• Fire control systems</li> <li>• Mobile autonomous launcher</li> <li>• Airborne launcher and</li> <li>• Other electronic systems</li> </ul>   <p><i>Air Version Launcher for Brahmos Sukhoi-30</i>      <i>Missile Checkout System</i></p>
<p><b>Avionics</b></p> 	<p>Avionics displays used on :</p> <ul style="list-style-type: none"> <li>• Light Combat Aircraft (“LCA”),</li> <li>• Intermediate Jet Trainers</li> <li>• Light Utility Helicopters (“LUH”)</li> </ul>  <p><i>Light Utility Helicopter Cockpit display</i></p>	<p><b>Electronic Warfare</b></p> 	<ul style="list-style-type: none"> <li>• Surveillance and intelligence gathering (“SIGINT”)</li> <li>• Further divided into COMINT and ELINT</li> </ul>   <p><i>Digital Direction Finder</i>      <i>Radar Warning Receiver</i></p>  <p><i>Airborne Radar Warning Receiver</i></p>
<p><b>Communications, ATEs and Satellites</b></p> 	<ul style="list-style-type: none"> <li>• Underwater electronics / Communications / Other Systems</li> <li>• Automated Test Equipment (ATE)</li> <li>• Small and Nano Satellites</li> </ul>   <p><i>Oceanography Product</i>      <i>Automated Test equipment for INS Shikra</i></p>	<p><b>Radars</b></p> 	<p>Surveillance radars      Weather radars      Coastal Surveillance Radar</p>    

# Over Last Three Decades



Launch pad countdown system



Fixed Wing Cockpit Displays



TERLS Tracking Radar



C-Band Tracking Radar



Wind Profile Radar



Micro Satellite Designed wide open **RWR and ELINT** for airborne platforms

2021

- Initiated expansion of manufacturing facility with **doubling of available floor area**
- Building of capacity to handle **large and heavy equipment and integration** of large radars and mobile EW systems, satellite integration facility

Designed and developed complete Radar Capability

- Data Patterns has a long history of association with India Space Organization. Data Patterns built a Nano Satellite which was deployed in 2017.
- Developed **EW receivers, Satellite and Ground Station**

Developed **Glass Cockpit Displays / Avionics**

- Upgradation of **Tracking Radars**
- Developed **RF and Microwave capabilities** allow entry to building complete systems

2001

- Developed a **Fire Control System** for Brahmos
- Designed & developed the **launch pad countdown system**



Fire control system for the BrahMos



RF & Microwave Products



Coastal Surveillance Radar (Dept. of Space)



Wideband Fast Scan receiver  
V/UHF Monitoring Receiver



Real Time Monitoring Receiver  
V/UHF Search Receiver



Precision Approach Radar



Expanding capacity

## 1 Developmental Contracts



Projects leads to Production / Repeat requirements  
 Programs leads to Annuity requirements

## 5 Exports / Offsets

Available Products / Systems

Radars, Electronic Warfare, Fire control systems, Avionics, Missile Seekers, Communications, Small satellites

## 2 MoD Tenders

Available Products / Systems Partnership with OEM



Requirements is for large numbers and longer timeframe

## 4 Civilian Requirements

Satellites and Wind profile radars



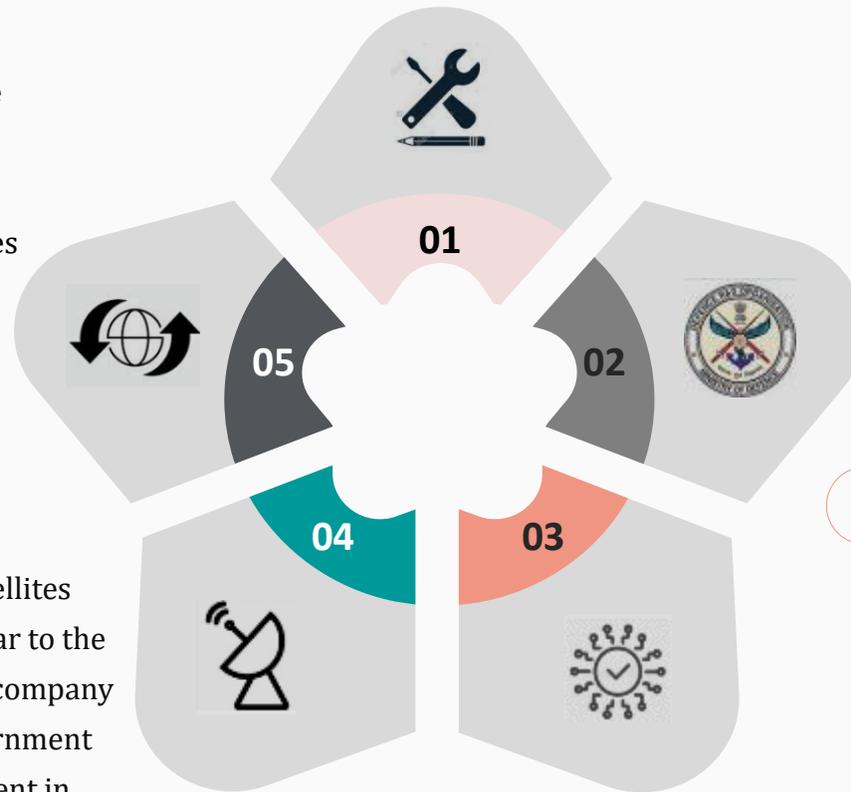
- Ability to build nano satellites
- Wind profile radar similar to the radar developed by our company is now required by government meteorological department in the civilian space

## 3 Indian Defence Eco-system

Platform / Weapon System Development



- Develop Sensors, Electronics, Avionics
- In-house
- In partnership with OEM





### Dharashakti programme

- Received single vendor orders from DLRL for development and supply of all of the COMINT / ELINT search receivers, Direction Finder & Monitoring / Search receivers.
- In a position to be an OEM for the entire receiver systems



### Radar Warning Receivers / ESM

- Part of the Radar Warning Receivers / ESM for the Airborne Early Warning System ("AEW &C") to DLRL which has been fitted on the Embraer early warning radar developed by Centre for Air Borne System ("CABS")



### MI 17 Upgrades, Dornier Upgrades, Aerostat upgrades,

- Expertise gained in the Dharashakti project would also position to cater for airborne COMINT and ELINT equipment for various upgrades of any new rotary wing programmes



### Next Gen completely wide open for LCA Mk IA and Sukhoi 30 platforms

- Likely to deliver Next Gen completely wide open for LCA Mk IA and Sukhoi 30 platforms subject to flight testing.
- After flight testing, these can be fitted on the LCA MK IA on order as well as the Sukhoi 30 upgrades, attack helicopters, etc.



### Airborne surveillance radar

- Has delivered an airborne surveillance radar (all of the hardware) to LRDE (Testing completed) and will be likely inducted in Navy's Dornier upgrade and new helicopter programmes



### Arudhra Radar

- Expected to supply multiple units of AGRU/ Arudhra radar
- Likely to generate revenues in the next few years based on the requirement projection of IAF



### Ashwini LLTR

- Partner in development of these radars as a single vendor incl. TR modules, AGRU, signal processor, etc
- Expected to realise revenue in the next few years.



### Light weight ESM requirements

- ESM capability will help in supplying products for Light weight ESM products which have a heavy requirement in mountainous borders as they are not adequately covered

**Focused on designing & developing indigenized products making it a beneficiary of India's "AtmaNirbhar" defence structural reforms**

-  **Focused on designing and building own products** across the manufacturing value chain to developing products and sub-systems
-  Well positioned to rapidly commercialise or **scale-up a number of existing products or building blocks to end systems** or complete solutions
-  Concentrate on building complete systems from the building blocks and sub-systems already developed, provides a **higher value addition while distributing development costs**

**Examples:**



**Wind profile radar built for Cochin University of Science and Technology** is the world's first 205MHz radar – complete in house development



Using the experience of working with DRDO and development of wind profile radar, the company successfully bid and won a contract of Rs 380Cr from **Ministry of Defence for nine precision approach radars** for Navy and Airforce which are currently at delivery stage



**Developed and deployed our first Nano Satellite in 2017**



Subsequently received contracts to build 2 more Nano Satellites



**Developed and supplied Military COTS type processor for DRDO**



Subsequently redeployed for other projects by various DRDO laboratories including in naval applications in ships & helicopters

**Defence Modernization Program**



Arudhra Radar



Light weight ESM requirements



Ashwini LLTR



Airborne surveillance radar



Dharashakti programme



Radar Warning Receivers



# Driven by Innovation Focused Business Model

**Focused on in-house development led by innovation and design and development efforts**



**Building complete systems from the building blocks and sub-systems already developed**



**Partner with customers through the life cycle of a product, from conception till deployment and thereafter**



**450+ engineers, most of whom have served in design and development departments**

Track record of utilizing pre-developed building blocks and sub-systems in the development of complete systems

Present programmes with building blocks Designed & Developed by Data Patterns...

... along with "Future Ready" products already designed and developed by the company

- Military grade processor modules,
- Cockpit displays,
- Actuator controllers for missiles and torpedoes,
- Flight control computers,
- Digital receivers and
- Up/Down converters radars

- Airborne phased array radar
- Frequency hopping radio relays
- Next generation EW products
- Integrated EW solution for



**Key Products manufactured and delivered by Data Patterns**

S.No	Product(s)	Details
1	Monopulse RF Seeker	Delivered prototypes to DRDO
2	X-Band Doppler Weather Radar	Prototype installed in Chennai for meteorology department
3	205MHz Wind Profile Radar for CUSAT	Installed at Cochin for a government owned university
4	Radar for Naval Utility Helicopter	Prototype delivered to LRDE
5	A Next-Generation Software Defined Radio for fighter aircrafts	Prototype developed for DEAL
6	A Next-Generation Radar Warning Receiver for fighter aircrafts	Prototype developed for DLRL
7	A Next-Generation COMINT	Prototype developed for DLRL
8	Precision Approach Radar	Delivered to AF
9	Nano Satellite	Being delivered to industry
10	Power PC Card	190 nos delivered to HAL
11	WBLRU	Delivered to DRDO

## Marquee customers in the Indian defence & aerospace ecosystem

### Government Departments

Ministry of Defence



Indian government space organisation

### Indian DPSU



### Others



## History of business continuity & reliable product service for marquee customers



### History of reliable product service for several customers

Supplying products to Indian govt. space org. for 20+ years; which continue to be under AMC  
Products supplied to BrahMos operational from 2006



### Invest in product development ensuring continuity of business

Developed cockpit displays for LUH, which has potential to generate additional annuity revenues from the new units



### Products form critical components

Launch systems for ground based BrahMos missile launcher, “take me home” displays for the Tejas



### Supply of products to prestigious defence projects in India

Like LCA, the HAL Dhruv, LUH and the BrahMos missile programme

# Led by a Highly Reputed and an Experienced Management Team

DATA PATTERNS



**Mr. Srinivasagopalan Rangarajan**

*Promoter, Chairman & Managing Director*

- Over 3 decades of experience in business development, corporate affairs, finance and marketing
- B.Tech in Chemical Engineering from University of Madras, M.S from IIT, Madras



**Ms. Rekha Murthy Rangarajan**

*Promoter, Whole Time Director*

- Over 2 decades of experience in administration, facility maintenance, HRD, process engineering and special projects
- B.A from Bangalore University, M.A in applied Psychology from Madras University



**Mr. Vijay Ananth K**

*Whole Time Director, COO and Chief Information Security Officer*

- Over 2 decades of experience in software engineering and product management
- BCS from Manomanian Sundaranar University and Masters degree in computer applications from the University of Madras
- *Associated with Data Patterns – 20+ years*



**Mr. Venkata Subramanian Venkatachalam**

*Chief Financial Officer*

- Over 2 decades of experience in finance sector
- B.Com from Madurai Kamaraj University, Member of ICAI
- *Associated with Data Patterns – 20+ years*



**Mr. Desinguraja Parthasarathy**

*Chief Technology Officer*

- 32 years experience in product development
- B.E from University of Madras
- *Associated with Data Patterns – 30+ years*



**Mr. Thomas Mathuram Susikaran**

*SVP – Business Development*

- 21 years of experience in Business Development and marketing
- B.E from Madurai Kamaraj University and a Masters' degree of tech in electrical engineering, IIT – Madras
- *Associated with Data Patterns – 20+ years*



**Ms. Prakash R**

*Company Secretary and Compliance Officer*

- >10 years of secretarial and legal expertise in listed entities
- Post Graduate Law Professional and Member of ICSI
- *Joined Data Patterns in 2023*



### **Mr. Prasad Raghava Menon**

*Non-executive, Independent Director*

- Served as Managing Director of Tata Chemicals Ltd and Ex-Tata Power Company Ltd.
- Bachelor's degree from IIT, Kharagpur



### **Mr. Sowmyan Ramakrishnan**

*Non-executive, Independent Director*

- Ex-Executive Director and CFO of Tata Power.
- Bachelor's degree in technology (mechanical engineering) from IIT-M and a PG Diploma in Business Administration from IIM-A and M.A from Department of Oriental Studies and Research



### **Mr. Vadlamani Venkata Rama Sastry**

*Non-executive, Independent Director*

- Retired Chairman and M.D of Bharat Electronics Limited and ex-Executive Director of Centre for Development of Telematics
- B.Sc and B.E in electronics and communication from Andhra University



### **Ms. Anuradha Sharma**

*Non-executive, Independent Director*

- Founder of H.R. Practice Private Limited.
- Directorship in Peopable Advisory Services Private Limited
- Graduate from Xavier School of Management



### **Mr. Mathew Cyriac**

*Nominee Director*

- 23 years of experience in investment banking and private equity.
- Previously associated with Blackstone Advisors, Bank of America, DLJ Merchant Banking Partners and Credit Suisse
- Bachelor's degree in technology (mechanical engineering) from Anna University and Post graduate diploma in management from IIM-B (gold medalist)





DATA PATTERNS

**Appendix**

# Historical Statement of Profit and Loss

Particulars (Rs. Mn)	FY21	FY22	FY 23
Revenue from Contract with Customers	2,239.5	3,108.5	4,534.5
Other Income	26.0	39.6	92.2
<b>Total Revenue</b>	<b>2,265.5</b>	<b>3,148.1</b>	<b>4,626.7</b>
Expenses:			
a) Cost of materials consumed	629.8	915.9	1,941.4
b) Changes in inventories of FG, WIP and SIT	74.3	-55.2	-232.3
c) Employee benefits expenses	484.2	623.5	794.9
d) Finance cost	145.0	109.9	77.4
e) Depreciation / Amortization	55.5	66.3	84.5
f) Other expenses	131.4	213.9	312.4
<b>Total Expenses</b>	<b>1,520.2</b>	<b>1,874.3</b>	<b>2,978.3</b>
<b>Profit before tax</b>	<b>745.3</b>	<b>1,273.8</b>	<b>1,648.4</b>
Tax expense	189.6	334.1	408.4
<b>Profit(Loss)for the period</b>	<b>555.7</b>	<b>939.7</b>	<b>1,240.0</b>
Other Comprehensive Income	-9.6	-11.5	-10.2
<b>Total Comprehensive Income for the year</b>	<b>546.2</b>	<b>928.2</b>	<b>1,229.8</b>
PAT Margin %	25%	30%	27%
<b>EBITDA</b>	<b>919.4</b>	<b>1,409.9</b>	<b>1,718.1</b>
EBITDA margin%	41%	45%	38%
Return on Net Worth	31%	24%	14%
Total Debt	332.2	67.7	7
Debt to Equity	0.16	0.01	0.00

# Historical Balance Sheet

DATA PATTERNS

Particulars (Rs. Mn)	Mar-20	Mar-21	Mar-22	Mar-23
<b>ASSETS</b>				
Non-current assets				
(a) Property, Plant and Equipment	278.2	292.1	441.6	912.5
(b) Capital Work in Progress			173.0	13.5
(c) Intangible Assets	1.6	5.6	13.5	20.0
(d) Right of Use Assets	53.7	34.4	19.7	187.9
(e) Other Financial Assets	464.8	340.7	1,220.4	838.7
<b>Total non-current assets</b>	<b>798.2</b>	<b>672.8</b>	<b>1,868.2</b>	<b>1,997.7</b>
Current assets				
(a) Inventories	794.1	737.5	1,197.7	1,929.5
(b) Financial Assets				
(i) Investment				556.8
(ii) Trade receivables	1,156.3	1,559.4	1,983.1	3,824.8
(iii) Cash and cash equivalents	15.1	88.1	1,770.8	2,147.8
(iv) Other Bank Balances				3,297.5
(iv) Other Financial Assets	37.2	51.0	88.6	211.5
(c) Other current assets	152.6	177.3	158.3	379.7
<b>Total current assets</b>	<b>2,155.4</b>	<b>2,613.2</b>	<b>5,198.5</b>	<b>12,351.7</b>
<b>TOTAL ASSETS</b>	<b>2,953.6</b>	<b>3,283.7</b>	<b>7,066.7</b>	<b>14,349.4</b>

Particulars (Rs. Mn)	Mar-20	Mar-21	Mar-22	Mar-23
<b>EQUITY AND LIABILITIES</b>				
<b>Equity</b>				
(a) Share capital	17.0	17.0	103.8	112.0
(b) Other Equity	1,518.0	2,060.7	5,641.3	11,558.8
<b>Total equity and liabilities</b>	<b>1,535.0</b>	<b>2,077.7</b>	<b>5,745.1</b>	<b>11,670.8</b>
<b>Liabilities</b>				
Non-current liabilities				
(a) Financial Liabilities				
(i) Borrowings	5.5	97.7	7.3	2.6
(ii) Lease Liabilities	38.5	24.4	11.1	4.3
(b) Provisions	56.4	85.2	111.6	102.5
(c) Deferred Tax Liability (Net)	7.6	8.1	-	
(d) Other Non Current liabilities	143.2	273.7	157.0	1,306.8
<b>Total non-current liabilities</b>	<b>251.2</b>	<b>489.0</b>	<b>287.0</b>	<b>1,416.2</b>
Current liabilities				
(a) Financial Liabilities				
(i) Borrowings	600.1	234.5	60.4	4.6
(ii) Trade payables	172.6	120.0	381.5	430.6
(iii) Other Financial Liabilities	79.2	40.1	220.7	118.0
(iv) Lease Liabilities	20.8	15.2	13.2	13.4
(b) Other current liabilities	224.7	246.4	226.8	664.4
(c) Provisions	14.9	9.6	7.2	31.4
(d) Current tax Liabilities	55.2	51.3	124.8	
<b>Total current liabilities</b>	<b>1,167.5</b>	<b>717.0</b>	<b>1,034.6</b>	<b>1,262.4</b>
<b>TOTAL EQUITY AND LIABILITIES</b>	<b>2,953.6</b>	<b>3,283.7</b>	<b>7,066.7</b>	<b>14,349.4</b>

# Historical Cash Flow

Particulars (Rs. Mn)	FY20	FY21	FY22	FY23
Net Profit before tax	284.7	745.2	1,273.8	1,648.4
<b>Adjustments for :</b>				
Add : Depreciation	54.6	55.7	66.3	84.5
Add : Interest And Finance Charges	133.4	145.0	109.9	77.4
Add : Liquidated Damages (LD) Written Off	-	-	12.8	44.6
Add : Unrealised Forex Gain/Loss	-	-	3.9	11.3
Less: Profit on sale of assets	-1.8	-1.2	-	-
Less: Profit/Loss on sale of Mutual Funds	-	-	-	-8.0
Less: Interest Income	-25.6	-22.2	-39.8	-84.2
<b>Operating Profit Before Working Capital Changes</b>	<b>445.3</b>	<b>922.5</b>	<b>1,426.9</b>	<b>1,774.0</b>
Adjustments For Working Capital Movements :	-282.4	-183.7	-621.4	-1,412.2
<b>Cash Generated From Operations</b>	<b>162.9</b>	<b>738.8</b>	<b>805.5</b>	<b>361.8</b>
Direct Taxes (Paid) /adjusted	-28.4	-189.8	-283.6	-534.2
<b>Net Cash flow From Operating Activities (A)</b>	<b>134.5</b>	<b>549.0</b>	<b>521.9</b>	<b>-172.4</b>
<b>Cash Flow From Investing Activities (B)</b>	<b>14.0</b>	<b>-27.5</b>	<b>-1,197.7</b>	<b>-3,831.6</b>
<b>Cash Flow From Financing Activities (C)</b>	<b>-136.5</b>	<b>-448.6</b>	<b>2,358.6</b>	<b>4,381.0</b>
<b>Net Increase in Cash &amp; Cash Equivalents (A+B+C)</b>	<b>12.0</b>	<b>72.9</b>	<b>1,682.8</b>	<b>377.0</b>
Cash & Cash Equivalent At The Beginning Of The Year	3.1	15.1	88.0	1,770.8
<b>Cash &amp; Cash Equivalent At The End Of The Year</b>	<b>15.1</b>	<b>88.0</b>	<b>1,770.8</b>	<b>2,147.8</b>

# Core groups or departments for design and development of products

**Total Employee Strength**



Department	# of Employees
Design & Engineering (D&E)	579
Manufacturing	376
Support	113
Marketing & Customer support	62
<b>Total</b>	<b>1,130</b>

**700+ qualified Engineers out of 1130**  
 Our senior members in hardware, design and development have been with us for more than **15 years**

Group/Department	Responsibility / Scope
<b>Hardware Development Department</b>	Design and development of all types of high-end and complex electronics modules and building blocks. Includes Single board computers, Field Interface modules, Communication Modules, Custom I/O Modules, Mezzanine modules, Signal conditioning modules etc.
<b>Software Development Department</b>	Design and development all types of embedded, real-time and application software. Includes devices drivers, Operating system porting, real-time data transfer, GUI application for various Operating systems and hardware.
<b>Mechanical Engineering Department</b>	Design and development of all types of mechanical packaging, big structure systems and jigs and fixtures. Includes standard ATR chassis, heat spreaders, structural and thermal analysis etc.
<b>CAD / CAM Group</b>	PCB schematics, Artwork, signal analysis, power analysis, electrical wiring, all modules/systems performance, and maintenance statistics like MTBF etc. Includes up to 26 Layer PCB design, hybrid electrical interface design etc
<b>Algorithm Development Group</b>	Design and development of various domain algorithms for RADAR, Electronic Warfare, Communication waveform etc. Uses all types of algorithm development including mathematical modelling, statistical modelling, feedback modelling etc.
<b>Radio Frequency Modules Group</b>	Design and development of all types of RF modules and sub-systems. Includes simple RF receiver/exciter, filters, upconverters/downconverters, synthesizers etc.

Group/Department	Responsibility / Scope
<b>DOMAIN Systems Groups</b>	Design and Development of product verticals as a system. Including RADAR, EW, Communication, ATEs, Fire-control systems, Satellite, Avionics etc.
<b>Production Department</b>	All the products are functionally and environmentally tested by this department. Includes testing of modules and sub-systems, wiring, mechanical assembly, and integration etc.
<b>Electronics Manufacturing Services (EMS)</b>	Fabrication of all electronics modules. Including automated pick-n-place, manual soldering, conformal coating etc.
<b>Harnessing Group</b>	Fabrication of all types of cable harness including internal wiring, external interface wiring, testing of cables for continuity, impedance etc.
<b>Mechanical Integration Group</b>	Assembly and integration of all types of mechanical parts. Including various types like LRU assembly, board assembly, system assembly, system integration etc.
<b>Project Management Group</b>	Responsible for Delivering all the orders both internal and external. Vertical integration of groups and product development responsibilities. Includes all types of projects from simple module delivery to full system delivery. Utilizes, project plan, metrics, GANNT charts, budgeting and control, optimal execution methods etc



### Arudhra Radar

- Expected to supply ~55 units of AGRU/ Arudhra radar
- Likely to generate revenues in the next 3-4 years based on the requirement projection of IAF



### Ashwini LLTR

- Partner in development of these radars as a single vendor incl. TR modules, AGRU, signal processor, etc
- Expected to realise revenue between \$10-30 million in the next few years.



### Dharashakti programme

- Has received single vendor orders from DLRL for development and supply of all of the COMINT search receivers, Direction Finder & Monitoring receivers.
- In a position to be an OEM for the entire receiver systems with likely revenues of \$ 50 million on complete execution



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### Light weight EW requirements

- EW capability will help in supplying products for Light weight EW products which have a heavy requirement in mountainous borders as they are not adequately covered, and the same has been prioritised due to the increased geo-political tension



### Airborne surveillance radar

- Has delivered an airborne surveillance radar (all of the hardware) to LRDE which is expected to be flight tested in the next few months and will be likely inducted in Navy's Dornier upgrade and new helicopter programmes



### Radar Warning Receivers

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- After flight testing, these can be fitted on the 83 LCA MK IA on order as well as the Sukhoi 30 upgrades (approximately 270 numbers), attack helicopters, etc.

# Indian defence and aerospace industry is rapidly evolving into a self sustaining one

**Competition at two levels for Data Patterns**

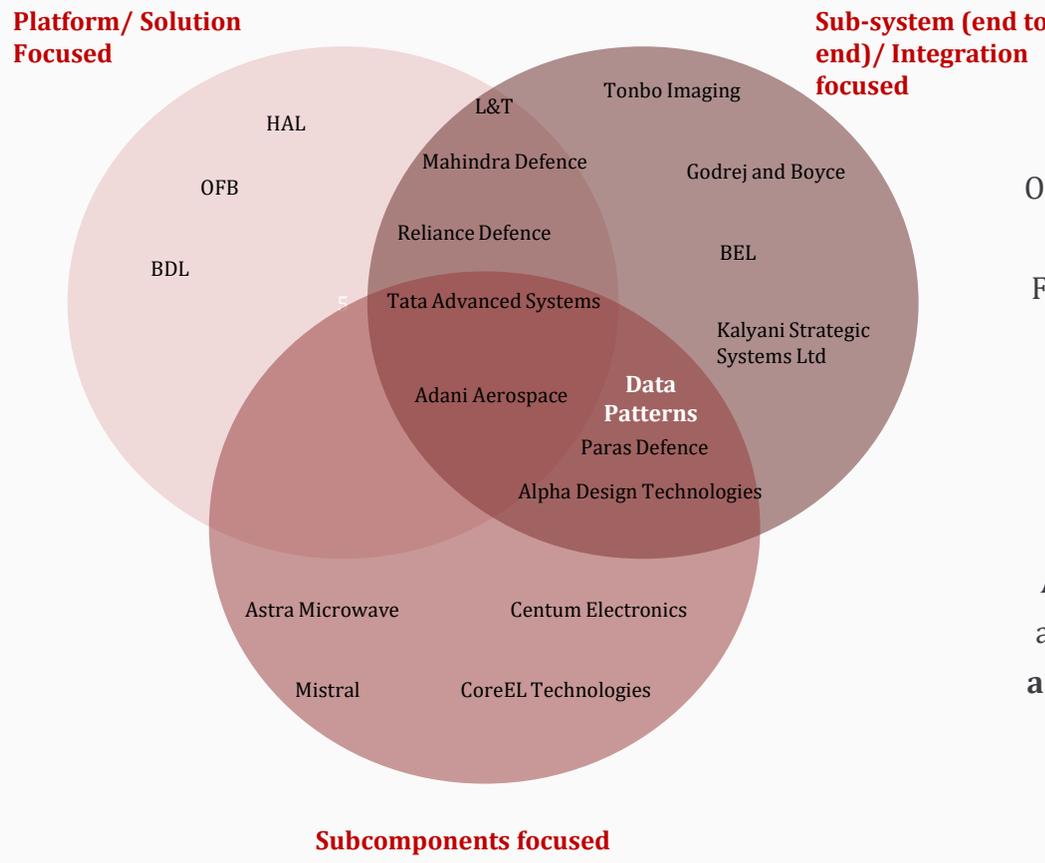


During **development stage** in DRDO requirements **from small and medium size companies** building custom solutions and/or integrating solutions around imported COTS products



From **large corporates** offering complete systems, often under a **partnership with International OEMs**, for products and programmes directly procured by the Indian government space organization

**Indian defence suppliers - Anticipated Future Positioning**



**We are poised to take up emerging opportunities**



Our products are **developed to compete with international and domestic equivalents**. Further, we offer **end to end solutions** to the customer



Ability to offer **wide range of products**. We also have **strong and balanced capabilities across 12 defence and aerospace segments**

# Thank You

Made in India  
with Pride



For further information, please get in touch with:

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