AXIS CAPITAL

IPO NOTE

PARAS DEFENCE AND SPACE TECHNOLOGIES LIMITED

Issue highlights

- **Paras Defence and Space Technologies Limited ("Paras Defence")** was incorporated on June 16, 2009. Paras Defence is one of the leading 'Indigenously Designed Developed and Manufactured' ("**IDDM**") category Indian private sector company engaged in designing, developing, manufacturing and testing of a wide range of defence and space engineering products and solutions.

- Paras Defence caters to 5 major segments of Indian defence sector:
  - **Defence and Space Optics**: High precision optics for defence and space applications such as thermal imaging and space imaging systems;
  - **Defence Electronics**: Providing a wide array of high performance computing and electronic systems for defence applications, including sub systems for border defence, missiles, tanks and naval applications;
  - **Electro-Magnetic pulse ("EMP") protection solution**: EMP Racks, EMP filters used for protection of data and power lines within a rack/shelter/room against electro-magnetic pulse or interference.
  - **Heavy Engineering**: components for rockets and missiles along with mechanical manufacturing support to other verticals.
  - **Niche Technologies**: identified and partnered with some of the leading technology companies around the world in order to indigenise advanced technologies in the defence and space sectors for catering to the Indian market

- They are currently developing several new products and solutions, such as **hyper spectral space camera, ARINC-818 based avionic display and naval periscopes,** and **multi and hyper spectral cameras** for drones and space, UAVs, cubesats and anti-drone systems.

- The flagship product of their subsidiaries - Paras Aerospace Pvt Ltd will be a **Cloud based NPNT Solution** (offered as software-as-a-service) and **Indigenous Multispectral Camera** for various applications including agriculture; and Paras Anti-drone Technologies aims to be one of the first indigenous **anti-drone technology** development company in India.

- Paras Defence has two manufacturing facilities in Maharashtra, located in Navi Mumbai and Thane. As of June 30, 2021, they employed 341 employees.

Brief Financial Details*

(₹ In Cr)

	As at Mar' 31,		
	2021	2020	2019
Equity Share Capital	29.85	28.41	5.68
Reserves^	142.59	110.33	113.40
Net worth as stated	172.44	138.74	119.08
Revenue from Operations	143.33	147.04	154.40
Revenue Growth (%)	(2.52)%	(4.77)%	-
EBITDA as stated	43.40	39.27	42.83
EBITDA (%)	30.28%	26.71%	27.74%
Profit Before Tax	22.61	21.79	26.81
Net Profit for the period	15.79	19.66	18.97
Net Profit (%)	11.02%	13.37%	12.29%
EPS (₹)	5.55	6.92	6.75
RoNW (%)	9.12%	14.17%	15.93%
Net Asset Value (₹)	55.23	46.03	38.90

*Source: RHP *Restated Consolidated, ^Reserve excluding Capital Reserve, Revaluation Reserve and Other Comprehensive Income.*

Issue Details

Fresh Issue of Equity Shares aggregating upto ₹ 140.60 Crore and Offer for sale of upto 1,724,490 Equity Shares

Issue size: ₹ 169 - 171 Cr
No. of shares: 10,245,702~ – 9,758,772^
Face value: ₹ 10

Price band: ₹ 165 – 175
Bid Lot: 85 Shares and in multiple thereof

Post Issue Implied Market Cap:
₹ 652 – 683 Cr

BRLM: Anand Rathi Advisors
Registrar: Link Intime India Pvt. Ltd.

Issue opens on: Tuesday, **21st Sep'2021**
Issue closes on: Thursday, **23rd Sep'2021**

Indicative Timetable

	On or about
Finalisation of Basis of Allotment	28-09-2021
Refunds/Unblocking ASBA Fund	29-09-2021
Credit of equity shares to DP A/c	30-09-2021
Trading commences	01-10-2021

Issue break-up

	No. of Shares (Approx)	₹ In Cr	% of Issue
QIB	5,122,850 – 4,879,387	84.53 – 85.39	**50%**
NIB	1,536,856 – 1,463,817	25.36 – 25.62	**15%**
Ret	3,585,996 – 3,415,572	59.17 – 59.77	**35%**
Total	**10,245,702-9,758,776**	**169.05 -170.78**	**100%**

Listing: BSE & NSE

Shareholding (No. of Shares)

Pre-issue	Post-issue~	Post-issue^
30,965,775	39,486,987	39,000,061

~@Lower price Band ^@ Upper Price Band

Shareholding (%)

	Pre-Issue	Post-Issue
Promoters & Promoter Gr	59.53%	43.93%
Promoter Group	19.87%	15.78%
Public	20.60%	40.29%
Total	**100.00%**	**100.00%**

For additional information & risk factors please refer to the Red Herring Prospectus.

BACKGROUND

Company and Directors

The company was incorporated as "Paras Flow Form Engineering Limited" on June 16, 2009. Their predecessor, M/s. Paras Engineering Co. ("**PEC**"), a proprietary concern, was established by the Promoter, Sharad Virji Shah in 1979. PEC was involved in the business of manufacturing precision machine components, pressed and fabricated components, precision spares, assemblies spring and fastners. The taking over of the PEC in all its entirety including all its assets and liabilities was one of the main objects of the company at the time of its incorporation. The company completed the acquisition of the plants and machinery of PEC on April 1, 2012.

The Promoters of the company are Sharad Virji Shah and Munjal Sharad Shah. Currently, the Promoters, in aggregate, hold 18,432,977 Equity Shares in the company, representing 59.53% of the issued, subscribed and paid-up Equity Share capital of the company.

Brief Biographies of Directors

Sharad Virji Shah is the Chairman and Non-Executive Director of the company. Being their Promoter, he has been associated with the company since their incorporation. He had established their predecessor, M/s. Paras Engineering Co. concern in 1979. He has worked in different areas of engineering and manufacturing and has played a major role in leadership of the company.

Munjal Sharad Shah is the Managing Director of the company. Being the Promoter, he has been associated with the company since their incorporation. He has over 23 years of experience, among others primarily for defence applications and has played a major role in leadership of the company.

Shilpa Amit Mahajan is the Whole-Time Director of the company and has been on the Board since June 25, 2018.

Sunil Kumar Sharma is the Independent Director of the company and has been on the Board since January 8, 2019. He has 38 years of experience of working with Bharat Electronics Ltd.

Manmohan Handa is the Independent Director of the company and has been on the Board since January 8, 2019. He has 38 years of experience of working with Bharat Electronics Ltd.

Hina Gokhale is the Independent Director of the company and has been on the Board since April 1, 2020. She has over 31 years of work experience in the areas of human resources, experiment design and analysis, policy development and project management.

Suresh Katyal is the Independent Director of the company and has been on the Board since January 5, 2021. He has 38 years of experience of working with Bharat Electronics Ltd and has worked in different areas of product assurance, quality control, testing, telecom and broadcasting and defence.

Key Managerial Personnel

Anish Mehta is the Director – Business Development of the company. He has over 20 years of work experience in, among others, business operations and logistics.

Ami Munjal Shah is Vice President - Human Resource & Administration of the company. She has 11 years of work experience in human resources and business administration.

Amit Navin Mahajan is the Director – Technical and R&D of the company. He has over 18 years of work experience in defence electronics and systems.

Harsh Dhirendra Bhansali is the Chief Financial Officer of the company. He has over 15 years of work experience in finance and accounts.

OBJECTS OF THE ISSUE

(₹ In Cr)

Objects	Amount
Purchase of machinery and equipment	34.66
Funding incremental working capital requirements of the Company	60.00
Repayment or prepayment of all or a portion of certain borrowings/outstanding loan facilities availed by the company	12.00
General Corporate Purposes	[•]
Total	[•]

Offer Details

The Offer	
Fresh Issue (₹ 140.60 Cr)	Upto 8,521,212~ - 8,034,286^ Equity Shares
	(~ at Lower price band and ^ Upper price band)
**** Offer for sale by:***	**Upto 1,724,490 Equity Shares**
Sharad Virji Shah – The Promoter Selling Shareholder	*Up to 1,250,000 Equity Shares*
Munjal Sharad Shah – The Promoter Selling Shareholder	*Up to 50,000 Equity Shares*
Ami Munjal Shah - The Individual Selling Shareholder	*Up to 300,000 Equity Shares*
Shilpa Amit Mahajan - The Individual Selling Shareholder	*Up to 62,245 Equity Shares*
Amit Navin Mahajan - The Individual Selling Shareholder	*Up to 62,245 Equity Shares*

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
Promoter and Promoters Group					
Promoter	*18,432,977*	*59.53%*	*1,300,000*	*17,132,977*	*43.93%*
Promoters Group	*6,154,273*	*19.87%*		*6,154,273*	*15.78%*
Total for Promoter and Promoter Group	**24,587,250**	**79.40%**	**1,300,000**	**23,287,250**	***59.71%***
Public – Individual Selling Shareholders	*2,837,498*	*9.16%*	*424,490*	*2,413,008*	*6.19%*
Public - Other	*3,541,027*	*11.44%*		*13,299,803*	*34.10%*
Total for Public Shareholder	**6,378,525**	**20.60%**	***424,490***	**15,712,811**	***40.29%***
Total Equity Share Capital	**30,965,775**	**100.00%**	***1,724,490***	**39,000,061**	***100.00%***

Pre- IPO Placement of ₹ 34.40 Cr

The company has undertaken a Pre-IPO Placement of **2,552,598 Equity Shares** at average price of **₹ 134.76/** - per share, aggregating to **₹ 34.40 Crore.**

Date	Name of the Entity	No. of Equity Shares	Price (₹)	Amount (₹ Cr)
26-03-2021	Allotment to various investors	1,440,000	125	18.00
26-03-2021	Allotment to various investors	400,000	125	5.00
29-07-2021	Allotment to various investors	712,598	160	11.40
Total		**2,552,598**	**-**	**34.40**

Business Overview

Paras Defence and Space Technologies Limited ("**Paras Defence**") is an Indian private sector company engaged in designing, developing, manufacturing and testing of a wide range of defence and space engineering products and solutions. They are one of the leading 'Indigenously Designed Developed and Manufactured' ("**IDDM**") category private sector company in India who is also the sole Indian supplier of critical imaging components such as large size optics and diffractive gratings for space applications in India. Their goal is to become one of the leading global companies for optics for defence and space sector.

Paras Defence has 5 principal categories of product offerings:

- Defence and space optics,
- Defence electronics,
- EMP protection,
- Heavy engineering for defence and
- Niche technologies.

Their defence and space optics operations include manufacturing high precision optics for defence and space applications such as thermal imaging and space imaging systems. They are one of the leading providers of optics for various Indian defence and space programmes, and the only Indian company with the design capability for space-optics and opto-mechanical assemblies. Their defence electronics operations include providing a wide array of high

performance computing and electronic systems for defence applications, including sub systems for border defence, missiles, tanks and naval applications. Their domain expertise in electronics for defence applications has allowed them to contribute to some of the most prestigious defence programmes of the country. Their EMP protection solutions include designing, developing, manufacturing and commissioning various solutions for EMP Protection. Paras Defence has the ability to undertake and deliver customized turnkey projects in the defence segment, especially in the defence electronics and EMP protection segments.

Paras Defence is one of the few companies with specialized technology capabilities such as manufacturing EMP protection and the company is expected to be an integral stakeholder in a majority of future sourcing of defence and space optics and EMP protection solutions. Further, their heavy engineering for defence operations involves providing heavy engineering products and solutions, such as components for rockets and missiles along with providing mechanical manufacturing support to other verticals of their business. They specialise in high end manufacturing for defence and space applications and have been providing their customers with customised and exclusive mechanical products since their inception. Under their niche technologies division, they have identified and partnered with some of the leading technology companies around the world in order to indigenise advanced technologies in the defence and space sectors for catering to the Indian market. This also affords them an opportunity to serve as manufacturing partner for global requirements of such overseas technology companies.

RESEARCH AND DEVELOPMENT

Paras Defence has diversified their products and solutions mainly due to their research and development ("**R&D**") and technological capabilities. Their R&D capabilities include product design, product engineering, product simulation, prototyping and testing. The R&D activities are mainly undertaken at their centres at Nerul in Navi Mumbai, Maharashtra and Bengaluru, Karnataka. Their R&D centre at Nerul was recognised by DSIR and such recognition is under renewal process. Their research activities are focused on creating new products and solutions which are customised to meet customer expectations and end-user preferences and also improving their production processes and improving the quality of their existing products. With their R&D capabilities, they are currently developing several new products and solutions, such as **hyper spectral space camera, ARINC-818 based avionic display and naval periscopes**. Their focus on R&D distinguishes them as one of the leading IDDM category company in the Indian defence industry. Recently, the Ministry of Defence, Government of India ("MoD") has announced the Defence Acquisition Procedure, which focuses on significantly boosting indigenous production and turning India into a global manufacturing hub of weapons and military platforms. This is expected to provide a boost to indigenous defence companies such as Paras Defence and with the expertise and technological know-how that they have, they are poised to take advantage of the expected growth in India's defence industry.

As of June 30, 2021, the R&D team comprises of 31 engineers and officers and they have in-depth knowledge of the design and engineering of their products.

As part of their R&D partnership products vertical, they aim to source technologies from their partners in various countries and manufacture products for clients in India and abroad.

Some of their exclusive partnerships are as follows:

Partners	Exclusive Partnership for India:	Term
Holland Shielding Systems BV Netherlands	For EMP Protection Solutions	5 years from January 20, 2017 with auto renewable
HPS, Gmbh	For Large deployable antennas for space applications.	2 years from April 30, 2019 and further renewed till April 26, 2023
Invent, Gmbh	To manufacture CFRP structures and systems for space applications.	2 years from June 13, 2019 and further renewed till June 14, 2023
Kley, France	For manufacturing of military winches for Naval, Avionic and Armoured Vehicle Platforms.	1 year from April 8, 2019 with auto-renewal
Spear UAV, Israel ((through their subsidiary, Paras Aerospace Pvt Ltd)	Non-binding intent to collaborate for requirements of loitering munition drones	-
ISISpace	Partnership to build platforms, sub-systems, mission, etc. for CubeSats (miniaturised satellites) offering various solutions for agriculture, disaster management, earth observation etc.	3 years from September 2, 2020

ORDER BOOK

The company derives most of their revenues under the contracts from the Government arms and associated entities such as defence public sector undertakings and government organizations involved in space research.

The details of the order book as on June 30, 2021

Particulars	Number of orders	Value (₹ Crore)
Defence and Space Optics	37	202.64
Defence Electronics	49	70.56
Heavy Engineering	34	31.79
Total Order Book		**304.99**

The company requires the application of high levels of technology at key stages of their design, engineering and manufacturing processes. They have therefore been focused on the recruitment, training and retention of a highly skilled employee base. As of June 30, 2021, they employed 341 employees (out of which 159 on payroll and 182 contract labourers.

COMPANY PRODUCTS

Product	Product Details
Defence and Space Optics	
Infrared lenses for thermal imaging systems and night vision cameras	These are the optical components for thermal imaging cameras or night vision devices which are extensively used by the armed forces and border security personnel.
Diffractive gratings for space cameras	This is an essential optical element in hyper-spectral imagers used in space applications.
Large size optics for space imaging systems	These are large size mirrors used in space telescopes where the size of optics ranges from 0.5 meter to 1.2 meters diameter used for various imaging applications.
Optical domes for missile systems	These are the optical elements used for missiles which help the missiles to sight its targets efficiently.
Metal mirrors for astronomy and space research	These are mirrors made from Aluminium and/or similar metals and offer very high reflective surface for large size long-range imaging systems such as telescopes.
Gyroscope components for ring laser and other gyroscope systems	These are ultra-high precision components in a gyroscope which directly influence the positional accuracy of the gyroscope which in turn increases the accuracy of the inertial navigation system used in various applications such as Space, Avionics etc.
Opto-mechanical assemblies for space and defence applications	These are assemblies comprising of precision optics assembled together with precision mechanics to form an array of optical lenses.
Defence Electronics	
Rugged control system	Designed for automating mission critical functions. These are fully custom developed systems and meet the harshest environmental conditions.
Naval and shelter mounted command and control systems	These are human – machine interface systems which are command and control systems with multiples display and high-end computing which are used for application such as radar data processing and fire control.
Rugged displays for defence application	These are liquid crystal display monitors, which work under harsh environmental conditions with high performance including sun-readability and low power consumption.
Rugged panel personal computers	These are high-end compact computers with in-built display meant for harsh environmental operating conditions.
Rugged communication systems	These are high-performance commercially-off-the-shelf communication sub-systems, which are ruggedised into military grade systems to work in harsh environments.
Rugged consoles and wired cabinets	These are command and control systems which are custom configured to user requirements.
Non-contact proximity sensor	This is a non-contact electro-mechanical device which offers accurate proximity sensing under the most severe underwater conditions like high pressure and salinity.
Heavy Engineering for defence	
Flow formed tubes	These are seamless metal tubes manufactured by cold forming process which are the key mechanical parts of a rocket or missile.
Vacuum brazed cold plates	These are cooling plates used for heat removal from high power electronics in the active array radar.
Remotely controlled border defence system	This is a front-line surveillance and defence system which detects the threats and upon intervention from the commander controls the weapon system to neutralise the threat.

Product	Product Details
Titanium structures and assemblies	These are mechanical assemblies which are manufactured using titanium metal and are used for various applications such as transducer hardware for naval ships and submarines.
Large &heavy dynamic structure with built-in automation	These are heavy-duty test rigs used for various applications such as simulating underwater conditions and testing transducer performance.
Indigenously designed flow-forming machines	These are indigenously designed and manufactured flow-forming machines that are used for manufacturing motor tubes for defence and space applications.
Racks, cabinets and consoles for various defence applications	These are custom built heavy-duty mechanical racks and cabinets for rugged applications and military use.
EMP Protection Solutions	
Turnkey EMP shielding of a site or control rooms or data centres	It provides shielding for strategic areas and rooms like data centers, control rooms and command centres which provide protection against electro-magnetic pulses.
EMP racks and cabinets	These are certified racks and cabinets with EMP protection and used for high end strategic applications.
High performance EMP filters for power and data	These are a wide range of filters used for protection of data and power lines within a rack or shelter or room against electro-magnetic pulses or interference.
Shielded doors meant for electro-magnetic interference and EMP shielding requirements	These are specially designed doors which provide electro-magnetic shielding between 2 isolated compartments usually fitted on-board naval ships or portable shelters.
Honeycomb air vents, waveguides and other entry point shielding components	These are shielded points-of-entries used for protection against electro-magnetic interferences.
Onsite installation, commissioning and testing	The company has in-house expertise and experience to handle onsite installations, commissioning and testing of EMP protected sites.
Niche Technologies	
Large deployable antennas	These are the deployable space antennas with diameter of up to 18 metres when opened. These are launched in folded condition and have mechanisms to open up into its desired shape after it has reached its expected altitude in LEO or GEO orbits.
Carbon fiber reinforced polymer (“CFRP”) structures	These are the high strength light weight structures made up of carbon fiber for space applications. These structures are used for mounting critical systems such as cameras, optics, etc. for the satellite or space mission.
Avionic suites	These are the complete avionics suites or glass cockpits including auto-pilot system in an aircraft cockpit. These are the human machine interface i.e. displays, controls, communications, sensors etc. which help the pilots to control the aircraft.
Military winches	These are heavy duty computerised lifting systems used to pull or push heavy structures or systems or antennas, etc. on a military platform such as naval ship or submarine, armoured vehicle/tank, and helicopter/airplane.
Turret stabilization	This is a turnkey system which helps to stabilise the turret of a tank or an infantry vehicle. This product helps to compensate movement of the vehicle in all the three dimensions and allows the turret to lock onto the target without any influence.
Capsule size drones	These are small sized, lightweight and low cost drones which have surveillance capabilities and can be launched from a 40mm handheld launcher.
CubeSats	These are miniature satellites used in Low Earth Orbits and are used for various applications such as remote sensing, communication etc.

MAJOR CLIENTELE

Company’s customer base includes Government arms and notable Indian public and private sector companies:

Domestic Customers	Foreign Customers
• Bharat Electronics Ltd (BEL), • Hindustan Aeronautics Ltd (HAL), • Bharat Dynamics Ltd (BDL), • Hindustan Shipyard Ltd (HSL), • Electronic Corporation of India Ltd (ECIL), • Tata Consultancy Services Ltd (TCS), • Solar Industries India Ltd, • Alpha Design Technologies Ltd, • Astra- Rafael Comsys Pvt. Ltd.	• Advanced Mechanical and Optical Systems (AMOS), Belgium, • Chaban (Israel), • Tae Young Optics Company Limited (South Korea), • Green Optics (South Korea) etc.

Further, they partner with international players such as **Holland Shielding Systems BV Netherlands, HPS, Gmbh** and **Invent, Gmbh** to provide their customers in India with products and technologies for defence and space applications. They are currently associated with some of the critical projects in India and abroad.

REVENUE FROM OPERATIONS

(₹ in Cr)

	For the Year Ended 31st March,		
	2021	2020	2019
Sale of Products	141.86	141.96	149.87
Sale of Services / Job Work Income	1.47	5.09	4.53
Total	**143.33**	**147.04**	**154.40**

Revenue Disaggregation by type of Products and Services:

(₹ in Cr)

	For the Year Ended 31st March,		
	2021	2020	2019
Heavy Engineering	37.78	64.13	60.11
Defence Electronics	64.93	31.81	46.86
Defence & Space Optics	40.62	51.10	47.42
Total	**143.33**	**147.04**	**154.40**

Revenue from Operations: Geographical segment-wise:

(₹ in Cr)

	For the Year Ended 31st March,		
	2021	2020	2019
India	119.16	128.66	139.05
Outside India	24.18	18.38	15.35
Total	**143.33**	**147.04**	**154.40**

MANUFACTURING FACILITIES

Paras Defence has two manufacturing facilities in Maharashtra, located at Nerul in Navi Mumbai and Ambernath in Thane. The Nerul facility is an advanced nano technology machining centre for producing high quality optics and ultra-precision components. This facility is engaged in manufacturing of Optics, Design, Development, Manufacturing and Integration of Electronics and EMP protection products and solutions. The Ambernath facility is engaged in manufacturing of heavy engineering products such as flow-formed motor tubes, vacuum brazed cold plates, titanium structures and assemblies, large and heavy dynamic structures with built-in automation for strategic applications, indigenously designed and manufactured flow-forming machines and mechanical racks, cabinets and consoles for various defence applications. Their manufacturing facilities at Nerul and Ambernath have been accredited with quality management system certificate for compliance with ISO 9001:2015 requirements while the Nerul Facility has been recommended for AS9100D certification. They are also in the process of expanding their manufacturing facility located at Nerul in Navi Mumbai, Maharashtra.

Location	Work undertaken	Year of commissioning	Leased/owned	Land Area (sq. feet)	Constructed Area (sq. feet)
Ambernath (Thane)	All mechanical activities in the Company	2009	Long term lease (95 years from May 1, 2008)	232,167	25,428
Nerul (Navi Mumbai)	All optics activities in the Company and Defence electronics and EMP Solutions activities including all integration activities.	2005	Long term lease (95 years from Sep'1, 1974)	43,593	20,820

In addition, for certain of the processes across their business verticals such as laser cutting, anodising, surface treatment and electroplating involved in the manufacturing process of all the products, they outsource such processes to their developed partners and sub-contractors who have dedicated facilities for such processes. The company ensure efficiency in their business activities by such outsourcing. Further, as a result of such outsourcing, they maintain spare capacity on their production floor to cater to any urgent requirements of their customers.

Expansion of their Facilities

Paras Defence is in the preliminary stages of augmenting their manufacturing facility located at Nerul in Navi Mumbai, Maharashtra and Ambernath in Thane, Maharashtra by expanding its production capacity and installing new equipment from the proceeds of the Offer and from internal accruals ("**Expansion**").

The Expansion is in process on land parcels adjoining their existing facilties, which they hold on a long-term lease hold basis, admeasuring (i) 21,569 sq. mtr located at Ambernath, Maharashtra and (ii) 4,050 sq. mtr located at Nerul, Navi Mumbai, Maharashtra, respectively. The total estimated cost of the Expansion is upto ₹ 48 crore

COMPETITIVE STRENGTHS

- ***Offering a wide range of products and solutions for both defence and space applications***

As of June 30, 2021, Paras Defence has a range of 34 different categories of products and solutions, with multiple variations in each category. Offering high-quality products and operational execution focused on continual improvement supports their ability to offer a wide range of products and solutions. They also have the capabilities across C4ISR segment.

In the space sector, they have established heritage in the earth observation domain by supporting government organizations involved in space research across multiple missions. They are also the sole Indian supplier of diffraction gratings used in hyper-spectral imagers, large size optics. Further, the company has been a part of most of the earth observation and space exploration missions since 2018. Their R&D and technological capabilities have helped them in diversifying their products and solutions. The company has entered into teaming agreements with various German technology companies for unfurlable and deployable antenna, subsystems and for services of parts, subassembly or assembly made out of carbon fiber reinforced polymers ("**CFRP**") for space applications.

Their wide range of products and solutions catering to specific customer needs enable them to successfully service core strategic sectors in India such as defence and space in India. Their ability to provide end-to-end solutions to their customers ranging from designing, developing, manufacturing and testing increases their capability to meet specific and exclusive requirements of their customers. Apart from the above, Company's horizontal integration makes them well positioned to undertake turnkey projects in the defence sector while also being capable of supporting major tier 1 Indian defence suppliers. As one of the few companies with specialized technology capabilities such as EMP protection solutions, they are likely to be an integral stakeholder in a majority of future programmes involving local sourcing of defence and space optics and EMP protection solutions.

- ***One of the few players in high precision optics manufacturing for space and defence application in India***

Paras Defence is one of the few manufacturers in India with comprehensive in-house capabilities of designing, developing and manufacturing optics for space and defence application in India. It houses equipment and machinery, *inter alia,* for nano technology, machining, grinding, polishing and turning coupled with a robust testing set up for measuring the performance parameters of the optical components. Their in-house facilities include single point diamond turning machines, grinding and polishing machines for precision optics and large size space optics, optical thin film coatings with fully equipped metrology with contact and non-contact measurements. They have uniquely positioned themselves to cater to demand from Government space organisation for optics in earth observation and space exploration missions.

- ***Strong R&D capabilities with a focus on innovation***

The company places strong emphasis on R&D which has helped them develop a wide range of products and solutions in the defence and space sector. They have had several significant achievements in R&D. For instance, they have successfully developed and delivered remotely controlled surveillance and defence systems recently which will enhance their defence capabilities. Through R&D, they have developed robust design and technological capabilities, which allow them to develop new and cutting-edge products and solutions, undertake process innovation and improve existing portfolio. It further helps them in expanding their role in core sectors of defence and space. As an example, they are in process of expanding their role in space sector from being a component manufacturer to complete subsystem manufacturer for a satellite.

- ***Well positioned to benefit from the Government's "Atmanirbhar Bharat" and "Make in India" initiatives***

Paras Defence falls within category of IDDM, the highest category in the priority of categorization under Defence Acquisition Procedure since most of their products and components are designed, developed and manufactured by

them in India. Recently, the MoD has announced the Defence Acquisition Procedure which has come into effect from October 1, 2020. This procedure focuses on significantly boosting indigenous production and turning India into a global manufacturing hub of weapons and military platforms. This procedure has been aligned with the vision of the Government's Aatmanirbhar Bharat (self-reliant India) initiative and to empower Indian defence industry through 'Make in India' projects.

The Department of Military Affairs, MoD has prepared a list of 101 items for which there would be an embargo on the import ("**Import Embargo List**"). Some of the products listed in the Import Embargo List such as EMP Racks, EMP filters used for protection of data and power lines within a rack / shelter / room against electro-magnetic pulse or interference are currently manufactured by the company. In line with the Atmanirbhar Bharat and Make in India initiatives of the Government, they collaborate with technology companies to boost indigenous manufacturing. In addition, their enhanced capabilities and know-how have enabled them to develop a variety of products such as EMP racks, diffractive gratings, IR optics, command and control system etc. which are 100% indigenously developed and delivered to their customers.

- ***Strong relationships with a diverse customer base***

Paras Defence has a diversified customer base which ranges from Government arms and government organizations involved in defence and space research, to various defence public sector undertakings. Their established heritage of experience in designing, developing and manufacturing components for diverse customers in defence and space sector has enabled them to develop a deep understanding of the sectors and customers' requirement.

In addition to the existing quality certificates, they are currently in the process of enhancing their quality systems to align them with AS9100D Aerospace Standards. They also aim to provide their customers with quality aftersales service by efficiently handling aftersales support requirements. They are also continually innovating and working on offering value added and technologically advanced products and solutions to their customers. They have also increased their presence across multiple cities in India and in Singapore for marketing and better serve their customer throughout the project life cycle including after sale services.

- ***An experienced management team***

Company's experienced management team is a major driving force behind the Company's sustained performance. All of their management team members are either with the company for a long time or are industry veterans bringing in high level of domain expertise and extensive intra-industry relations. The management team is led by their Promoter, Sharad Virji Shah, who is also the Chairman of the Board has over 41 years of experience in the industry and Munjal Shah, the Managing Director, who has over 23 years of experience in the industry. Further, their key management personnel possess extensive management skills, operating experience and industry knowledge and are able to formulate business strategies, take advantage of the market opportunities and also execute them in an effective manner.

KEY BUSINESS STRATEGIES

- ***Expansion of the production capacity***

Paras Defence currently has two manufacturing facilities. They are also in the preliminary stages of augmenting their manufacturing facility by expanding its production capacity and installing new equipment from the Net Proceeds and from internal accruals. Their investment in infrastructure will enable them to cater to the growing demand from their customers, enhance their space optics product portfolio and offer flow formed tubes for space applications, which in turn is expected to result in an increase in their profits and revenues.

- ***Strengthen the foothold in India's expanding market***

The company can strengthen their foothold in Indian market by continuing to focus on their competitive strengths and increase their market penetration. They can expand their market share by focusing on increasing their products and solutions portfolio, enhancing their existing capabilities and indigenising advance foreign technologies. Recent initiatives of the Government i.e. "Atmanirbhar Bharat Abhiyan", the Defence Acquisition Procedure and "Make in India" reflects its focus on 'self-reliance' wherein indigenisation and innovation is enabled through processes of 'Make', 'Design and Development' and 'Strategic Partnership'.

- ***Continue to focus on R&D***

Paras Defence is continuously investing in technology, equipment and skilled employees and using it to improve their customers' experience. Their focus on innovation and development will be crucial to remaining competitive. As

part of their efforts towards R&D, they have set-up 2 R&D centres at Nerul, Navi Mumbai in Maharashtra and Bengaluru, Karnataka employing 31 engineers and officers, to undertake research, develop and experiment new designs, technologies and equipment.

They are also constantly exploring opportunities to collaborate with leading overseas technology companies around the world, which among others benefits allows them to enhance R&D. They also intend to increase their product centric R&D by exploring opportunities in designing, engineering and/or manufacturing products such as **multi and hyper spectral cameras for drones and space, UAVs, cubesats and anti-drone systems**.

- ***Diversify the products and solutions range, with focus on growth by expansion into opportunistic areas***

Paras Defence has exclusively partnered with ISISpace for manufacturing cubesats in India.They have also partnered with other technology companies such as **HPS, GmbH** for Large Deployable Antennas for space, **Invent, GmbH** for CFRP structures for space and **Kley, France** for military winches which will further broaden their product portfolio.

Their subsidiary, Paras Aerospace Pvt Ltd aims to offer UAV integration solutions and UAV services for a wide range of applications such as agriculture, power transmission, oil and gas, mining and construction. **The flagship product of Paras Aerospace Pvt Ltd will be a Cloud based NPNT Solution (offered as software-as-a-service) and Indigenous Multispectral Camera for various applications including agriculture**. Further, their subsidiary, Paras Anti-drone Technologies Pvt Ltd will design sub modules and they will be involved in integrating the solution. **Paras Anti-drone Technologies aims to be one of the first indigenous anti-drone technology development company in India** and is currently collaborating with leading UAV anti-drone technology firms to further develop its expertise in designing customer-specific modules. Further, Paras Aerospace has entered into partnerships with leading UAV technologists from Israel and Italy.

- ***Increasing the reach in the international market***

The company primarily caters to the requirements of the Indian market. Through their extensive experience and proven track record, they are strongly positioned for providing products and solutions to international customers. They will continue to focus on their existing markets in Israel and South Korea and intend to provide their products and solutions to markets in the United States and Europe. They have recently received orders from the United States and United Arab Emirates for manufacturing IR Lens and Electro-Mechanical Masts, respectively.

In furtherance of an application made by one of their customer for receiving the DSP-05 license from the Department of State, United States of America to enable the export of certain commodities by them, they have recently received their first optics order from United States of America. Obtaining this license by the customer will further increase their exports to the United States, being the biggest optics market in the world.

COMPETITION

Since the parameters of competition are less firmly established than in certain other types of businesses, it is difficult to predict how the competitive landscape of their business will develop over the long term. General competitive factors in the market, which may affect the level of competition over the short and medium term, includes product features, design, quality, price, delivery, general customer experience, time to market, availability of after-sale and logistics support, and relationships between producers and their customers.
The major companies that produce such products for the Indian market:

	Defence Electronics Capabilities							Defence Optics			
Company Name	Control System	Specialised Computers	Displays	MIL Spec Racks	Software	Integration	Sensors	Lenses	Specialized Lenses	Optical Elements	Precision Engineering
Paras Defence	●	●	●	●	●	●	●	●	●	●	●
Data Patterns	●	●	●	●	●	●	●	●	●	●	●
Mistral Solutions	●	●	●	●	●	●	●	●	●	●	●
CoreEL Technologies	●	●	●	●	●	●	●	●	●	●	●
Ophir Optronics Solutions Ltd (Israel)	●	●	●	●	●	●	●	●	●	●	●
QiOptiq	●	●	●	●	●	●	●	●	●	●	●
ISP Optics (USA)	●	●	●	●	●	●	●	●	●	●	●
Veero Metals	●	●	●	●	●	●	●	●	●	●	●
HYT Engineering	●	●	●	●	●	●	●	●	●	●	●
ETS-Lindgren (USA)	●	●	●	●	●	●	●	●	●	●	●

Company Name	EMP Hardening			Heavy Engineering Capabilities				
	Customised EMP Protection Projects	EMP Shielded Control Centers	EMP Filters/Arrestors	Titanium & Special Metal Mfg & Engineering	Flow Formed Tubes	Cooling Assemblies	Heavy Structures	Special Purpose Machines
Paras Defence	●	●	●	●	●	●	●	●
Data Patterns	●	●	●	●	●	●	●	●
Mistral Solutions	●	●	●	●	●	●	●	●
CoreEL Technologies	●	●	●	●	●	●	●	●
Ophir Optronics Solutions Ltd (Israel)	●	●	●	●	●	●	●	●
QiOptiq	●	●	●	●	●	●	●	●
ISP Optics (USA)	●	●	●	●	●	●	●	●
Veero Metals	●	●	●	●	●	●	●	●
HYT Engineering	●	●	●	●	●	●	●	●
ETS-Lindgren (USA)	●	●	●	●	●	●	●	●

•High Level Capability; •Mid Level Capability; •No Capability

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