Avantel Limited

25th March, 2023

avantel

Contents

Initiating Coverage Date	25th Mar, 2023
Market Cap (Rs. in crores)	629
CMP	388
Outlook	Positive
52 Week High/Low	474/237

Shareholding Pattern	
Promoters	40.14%
Mutual Funds	-
FPI	-
Public	59.87%

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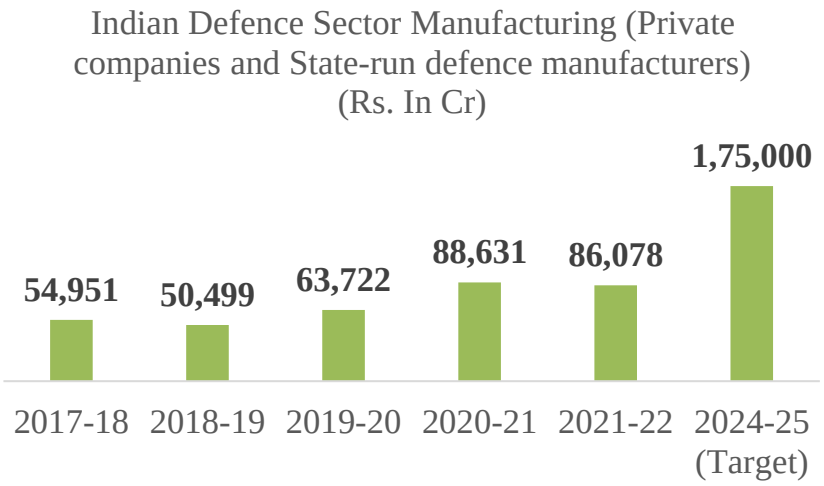
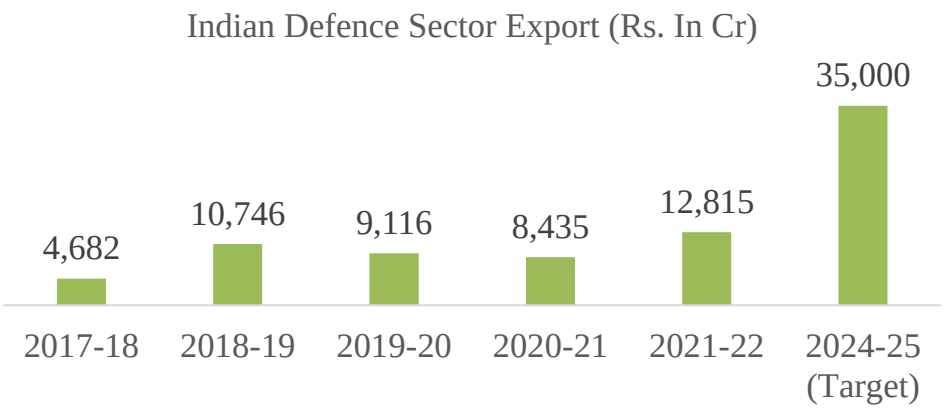
Why Indian Defence Manufacturing?

Over the past few years, the government has implemented numerous initiatives to promote the growth of domestic manufacturing in the defence industry. These efforts aim to reduce reliance on foreign suppliers and enhance the nation's self-sufficiency in producing defence equipment.

The government has taken significant steps towards achieving self-sufficiency in defence manufacturing and reducing dependence on imports by the Defence Public Sector Undertakings (DPSUs). One such step is the creation of a positive indigenization list by the Department, which outlines items that should be produced domestically. The government has issued four 'Positive Indigenization Lists' comprising 411 services and three 'Positive Indigenization Lists' including 3,738 items of DPSUs. This move is expected to boost the domestic production of defence equipment and strengthen India's position as a leading player in the global defence industry.

The Indian government has set an ambitious target of achieving defence manufacturing worth Rs. 1,75,000 crore by the year 2024-25. This target is more than double the current manufacturing level in 2021-22.





While it may not be feasible to achieve complete indigenous participation in all aspects of defence manufacturing, the domestic procurement policy mandates that 50% of procurement must be sourced from Indian companies.

Because of the domestic procurement policy, 50% of the procurement has to be sourced from Indian companies. This need not necessarily be for the same project; tender issuing entities can procure components, subsystems, or other products that are available in India.

These positive initiatives by Government are helping many Indian defence players in a big way.

Avantel Limited is one of the many companies benefiting from the positive defence policies of the government. The company was relatively small, but it has grown significantly, crossing a turnover of Rs. 100 crore last year. **This increased turnover has made Avantel Limited eligible to bid for larger tenders in the Indian defence sector.**

Avantel is positioned in a category where the minimum required indigenous content is 50%, and in most cases, it is 60%.

Over the years, the company has developed strong capabilities in defence electronics items. However, their biggest client currently is the Indian Navy. In an effort to expand their business, the company is now bidding for projects with the Indian Army and Indian Air Force as well.

About the company

Avantel was incorporated in 1992 by Mr. Dr. Abburi Vidyasagar.

The company has over three decades of experience in Design, Development, Manufacturing, System Engineering, Deployment and After Market Support of wide range of defence electronics products.

The company offers customized solutions through a process-oriented approach to design, development, and manufacturing of RF subsystems, RADAR subsystems, software-defined radios, and satellite communication systems.

Business History

- Avantel started its operations by building radio components.
- In 2000, the company reoriented itself and began offering system-based solutions in four main verticals: satellite communications, HF communications, electronic warfare, and radar systems.
- Currently, the company is focused on developing SCA compliant software-defined radios, high power HF systems, air defence radars, and small satellites.

About Promoter

Mr. Dr. Abburi Vidyasagar, an alumnus of IIT Kharagpur, worked as a design engineer at HAL before founding Avantel. During his time at HAL, he gained valuable experience in designing, developing, and producing microelectronic modules for command guidance systems and missiles developed by DRDO. He also worked on RF subsystems for the Radar Warning Receiver of Jaguar Aircraft and other avionic equipment.

Business Model of Company

Avantel offer design, development and manufacture of products for C4ISR Solutions.

C4ISR is an acronym that stands for Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance. It refers to a military concept that integrates a variety of systems and technologies to provide commanders with a comprehensive view of the battlefield and enable them to make better-informed decisions.
Company's core competencies include Wireless & Satellite systems, RF System Design, Embedded Systems & Signal Processing, Network Management & Software Development and Engineering & IT Services.

The company's continued investment in R&D has been a key factor in its success, allowing it to stay ahead of the curve in terms of technological advancements. This focus on innovation has enabled the company to create new products and services that better serve the needs of its customers, and to maintain its competitive edge in the marketplace.

A. Key technologies & products of company

1. Satellite Communications

Currently this segment is major contributor in the revenue of company. Avantel is synonymous with Mobile Satellite service for Indian Navy for the last 20 years with Design, Development, Manufacturing, Installation, Commissioning and Maintenance of the network as a complete end to end solution.

Company's SATCOM Radios operate in 'S' and 'UHF' band and provides Full-duplex **Voice/Data Communications between Ships, between Aircraft, Aircraft - Ship, Ship - Base, Base - Ship etc.**

The comapny designed and developed various first of its kind, **customized wireless/Satcom products and solutions to meet the special requirements of Indian Defence Services.**

Avantel developed customized solutions for GSAT based Mobile Satellite Services with advanced microwave, digital wireless communications and signal processing products for military and commercial markets.

SATCOM Products

- INSAT MSS Trans-Receivers for Ship borne and Airborne
- Satellite MODEMS, UHF Radios for Ship borne and Airborne (LOS/Satellite).

INSAT MSS Trans-Receivers are communication systems used by the Indian Navy for ship-borne and airborne communication. **These systems are designed to provide reliable and secure communication links between naval vessels, aircraft, and shore-based command centres.**

INSAT, or the Indian National Satellite System, is a series of satellites launched by the Indian Space Research Organization (ISRO) that provides a range of communication, navigation, and meteorological services to users across India and neighbouring regions. The INSAT MSS (Mobile Satellite Service) is a subset of the INSAT system that provides satellite-based communication services to mobile users, including ships and aircraft.

The INSAT MSS Trans-Receivers for ship-borne and airborne communication are designed to operate on the S-Band and C-Band frequencies, providing voice and data communication capabilities over a wide coverage area. These systems are equipped with advanced features such as encryption and anti-jamming capabilities to ensure secure and reliable communication in challenging environments.

Satellite MODEMs and UHF Radios are communication systems used by the military for ship-borne and airborne communication.

Satellite MODEMs are modulators and demodulators used to convert digital signals into analog signals and vice versa, enabling communication between a ground station and a satellite. They are used to establish a reliable and secure communication link between ground-based and space-based assets. Satellite MODEMs are often used in military communication systems to provide voice and data communication capabilities over long distances and in remote or challenging environments.

UHF Radios, on the other hand, are a type of radio that operates on the Ultra High Frequency (UHF) band. They are commonly used by the military for communication between different units, including ship-to-ship or aircraft-to-aircraft communication. **UHF Radios can operate in either line-of-sight or satellite mode, depending on the specific system design and requirements.** In line-of-sight mode, the radio signals travel directly between the transmitting and receiving units, while in satellite mode, the radio signals are transmitted via a satellite, allowing for communication over longer distances.

2. HF Communications

HF communication stands for High Frequency communication, which refers to the use of radio waves in the high frequency range for long-distance communication.

HF communication is used for both military and civilian purposes, including aviation, maritime, and amateur radio communication. One of the primary advantages of HF communication is that it can transmit signals over long distances, even beyond the horizon, using skywave propagation. This allows communication to take place between locations that are not in direct line of sight, such as between aircraft and ground stations or between ships at sea.

Company currently offer 1 KW and 5 KW solutions for Static and Ship borne Applications.

The HF Radio operates in wideband (24 KHz) and consists of the latest state-of-art technology that includes FPGA, DSP, Direct Digital frequency synthesis, Automatic link establishment using 3G ALE (STANAG4538), 2G ALE (FED-STD 1045), Frequency hopping and customized waveform loading capability.

The HF transceivers system covers the 1.6 to 30 MHz frequency range in 1 Hz steps.

The main difference between HF Communication and SATCOM is the way they transmit signals and the frequency range they use.

HF Communication uses radio waves in the high frequency range of 3 to 30 MHz to transmit signals over long distances. It is primarily used for long-range communication between aircraft and ground stations or between ships at sea. HF communication is often affected by atmospheric conditions, which can affect the quality and reliability of the signal.

On the other hand, SATCOM uses artificial satellites to relay signals from one location to another. SATCOM is used for a wide range of communication applications, including television broadcasting, internet access, and military communication. SATCOM can transmit signals over very long distances and is not affected by atmospheric conditions like HF communication.

In terms of performance, SATCOM typically offers higher bandwidth and better signal quality than HF Communication. However, SATCOM is also more expensive to set up and maintain than HF Communication, which can make it less accessible in some regions.

3. Radar Systems

Radar systems portfolio comprises of Radar subsystems viz. T/R modules, Exciter, DTCSG, MTCSG, Distribution unit etc in the frequency ranges of HF, UHF, L, S, C and X bands. Company offers complete Radar solutions as per customer specifications.

- Timing and control generation
- Power output upto 7.5KW
- Solid state and fast switching.
- Active array based
- Local and remote operation

4. **Real-time Information System for Indian Railways -** Avantel has developed a unique, real time and cost effective solution for position determination and location transmission of the rolling stock for Indian railways. The Real-time Train Information System (RTIS) helps the railway operator to run the rolling stock control applications automatically. The solution facilitates real time tracking using GPS + GIS + Zigbee + MSS + 4G technologies.

5. **Other Solutions -** Network Management Systems & Application Software and Embedded Systems & Digital Signal Processing.

B. New Technology & Business Divisions

1. Software Defined Radios

Software Defined Radios (SDR) are radios that use software to define their operational parameters instead of using hardware circuits. This means that instead of using fixed hardware components to define their operating frequency, modulation, and other characteristics, SDRs use digital signal processing (DSP) techniques and flexible software-defined radio hardware to allow the radio to operate on different frequencies and with different modes.

Avantel has designed and developed **fully indigenous HF Software Defined Radio (SDR) covering Frequency Range of 1.5 to 30 MHz** in compliance to Software Communication Architecture (SCA) 4.1.

How SDR Technology will benefit the company?

The company received an order of 125 systems from the Indian Navy. To fulfill this order, the company collaborated with a German company called HMK and imported SDRs from them. Therefore, out of the total order value of Rs. 100 crores, the company imported SDRs worth 45 crores from HMK.

The company is bidding for a large order from the Indian Air Force and Indian Army. For this order, the company has offered its own SDR. This move will enable the company to significantly reduce import content.

2. Medical subsidiary M/s. Imeds Global Private Limited

Avantel has floated a fully owned subsidiary M/s. Imeds Global Private Limited in September 2021 and established manufacturing facility in Andhra Pradesh Medical Tech Zone (APMTZ), Visakhapatnam. iMEDS Global Private Limited has been established for Design, Development & Manufacture of Medical Electronics Devices and offer innovative / indigenous medical solutions.

iMEDS is committed to building “Self Reliance” in the Indian Health Care sector and aspire to offer best in class products in the areas of “Respiratory Care”, “Surgical Staplers”, “Patient Monitoring” and “Homecare Solutions”.

Investment Rationale

1. Healthy Order Book

The company's robust order book, valued at over Rs. 200 crores, provides a strong foundation for its future revenue projections over the next 12-24 months. This stability allows the company to plan for the future with confidence, and to make strategic investments in areas such as research and development and expansion.

Currently, the company is working on a 1 KW HF project for the Indian Navy worth Rs. 100cr. The company has already delivered a major portion of this order.

The company has been awarded such a large project is a testament to its capabilities and reputation in the industry.

Railway Order – The company has been awarded a contract worth Rs. 125.68 Crores by L&T for the supply of 6300 loco units for the Real Time Train Information Systems to be supplied to Indian Railways. This order will be executed in the current and next financial year.

After the execution of this order, there is a possibility of repeating the order for 3000-4000 more locomotives.

Defence Tender – The Company is currently bidding for a significant order from the Indian Air Force and Indian Army, which is expected to be awarded in the first quarter of fiscal year 2024.

SATCOM Products – The Company has a regular order from the Indian Navy for SATCOM products.

2. New Capacity Expansion

Avantel is in the process of establishing a new facility at Hyderabad with a built up area of around 70,000 Square feet in an area of 04 acres in E-City, Tukkuguda just few Kilometers away from Rajiv Gandhi International Airport. **The company is doing total capex of Rs. 27 crore for this facility.**

The new expansion is for **development and production of Software Designed Radios.**

This additional facility will help the Company for Electronics Design, Manufacturing and Engineering Services in its diversification plans to meet emerging demands of its Customers and Industry.

3. Strong R&D

The Company's Research and Development center is recognized by the Department of Scientific and Industrial Research (DISR), Ministry of Science and Technology, Government of India. The company spends around 8-10% of revenue on research.

	Mar-22	Mar-21	Mar-20	Mar-19	Mar-18	Mar-17	Mar-16	Mar-15
Net Sales	**104.94**	**77.7**	**51.92**	**50.51**	**51.69**	**33.59**	**24.63**	**25.28**
Research & Development	6.29	6.3	4.66	4.4	4.73	4.47	3.56	2.63
Research & Development %	**6.0%**	**8.1%**	**9.0%**	**8.7%**	**9.2%**	**13.3%**	**14.5%**	**10.4%**

4. Big Clients

Indian Navy is biggest client of the company. Other clients include Indian Army, Indian Railways, Indian Air force, ISRO, DRDO, The Boeing Company, LockHeed Martin, Larsen & Toubro Limited (L&T), etc.

5. Self-Reliance in Defence Sector

Avantel is positioned in a category where a minimum of 50% indigenous content is required, with a typical range of 55% to 60%.

As a result, foreign companies seeking to sell their products to India must partner with an Indian company to meet this requirement. With a strong focus on research and development, there is significant potential for technology companies to partner with those seeking a presence in the Indian defence market.

This presents a great growth opportunity for company.

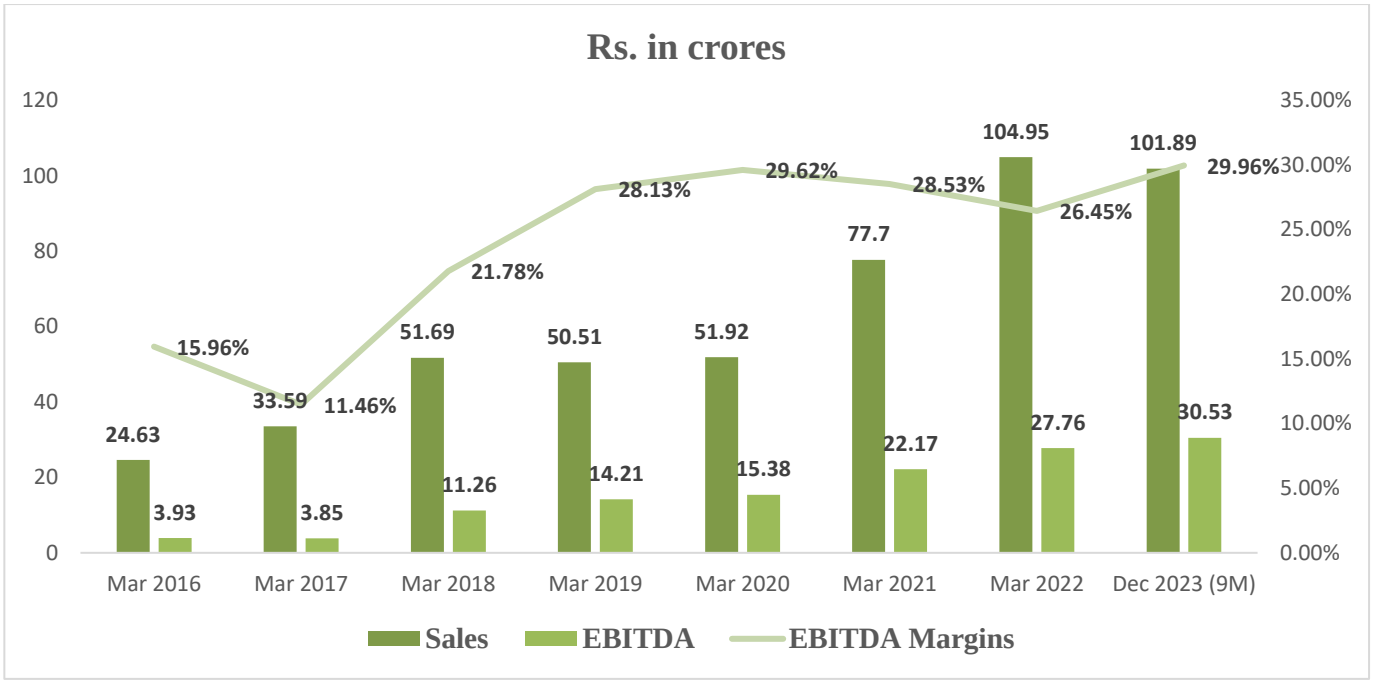
Key Risks

1. **Long working capital cycle** - As a company involved in government projects, they face extended payment cycles that can be challenging to manage. Additionally, some key raw material components have lead times ranging from 6 to 12 months, which can impact ability to deliver products on time.
2. **Competition** – Bharat Electronics, a major player in the industry, is a significant competitor for company in various new area where company is bidding for projects.
3. **Tender business & dependence on government orders -** As with any tender business, there are inherent risks involved that must be considered. These risks can include unpredictable changes in project timelines, fluctuating material costs, and intense competition from other bidders.

Financials

Rs. in crores	Mar 2016	Mar 2017	Mar 2018	Mar 2019	Mar 2020	Mar 2021	Mar 2022	Dec 2023 (9M)
Sales	24.63	33.59	51.69	50.51	51.92	77.7	104.95	101.89
Other Income	0.4	0.51	15.44	0.91	1.2	0.87	1.37	0.39
Raw Material	8.24	14.79	19.92	14.29	13.36	26.99	46.69	42.43
Gross Profit	**66.5%**	**56.0%**	**61.5%**	**71.7%**	**74.3%**	**65.3%**	**55.5%**	**58.4%**
Employee Cost	4.12	4.81	7.78	8.44	10.03	10.36	13.11	11.96
Other Expenses	8.34	10.14	12.73	13.57	13.15	18.18	17.39	16.97
Total Expenses	20.7	29.74	40.43	36.3	36.54	55.53	77.19	71.36
EBITDA	3.93	3.85	11.26	14.21	15.38	22.17	27.76	30.53
EBITDA Margins	**15.96%**	**11.46%**	**21.78%**	**28.13%**	**29.62%**	**28.53%**	**26.45%**	**29.96%**
Dep	1.74	1.79	1.64	2.05	2.71	3.03	3.97	3.8
Finance Cost	1.94	1.52	0.87	0.58	0.85	1.51	1.52	3.35
PBT	0.65	1.05	24.19	12.49	13.02	18.5	23.64	23.77
Tax	0.06	0.17	6.89	2.9	2.26	3.17	4.46	4.27
PAT	0.59	0.88	17.3	9.59	10.76	15.33	19.18	19.5

Ratios	2017	2018	2019	2020	2021	2022
ROE						
PAT Margin	2.62%	33.47%	18.99%	20.72%	19.73%	18.28%
Sales/Total Assets	1.02	1.34	1.12	0.91	1.01	1.07
Assets to Equity	1.61	1.34	1.13	1.21	1.30	1.32
ROE	**4.3%**	**60.1%**	**24.0%**	**22.7%**	**26.0%**	**25.8%**
Working Capital						
Receivable days	104.59	62.96	139.17	208.44	61.66	125.75
Inventory Days	189.97	122.27	62.38	139.04	34.00	131.10
Payable days	12.49	37.59	4.28	42.47	4.43	5.52


Rs. in crores
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29.96%
Mar 2016
Mar 2017
Mar 2018
Mar 2019
Mar 2020
Mar 2021
Mar 2022
Dec 2023 (9M)
Sales
EBITDA
EBITDA Margins

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