

05 September 2023

India | Equity Research | Sector Update

## Defense

### Digest #5/24: Aspiring for more

Aug'23 was an eventful month for the defence sector. Key points: 1) An order worth INR 190bn for 5 fleet support ships was awarded to Hindustan Shipyard; 2) Acceptance of Necessity (AoN) worth INR 78bn was accorded for various platforms; 3) progress is being made on development and acquisition of fighter aircraft along with a visit by Air Chief Marshal to HAL; 4) successful firing of Astra BVR missile from Tejas; and 5) progress on P75I and P76 submarine programmes; and 6) guided Pinaka Rocket System is likely to enter final user trials in next 1-2 months. We believe the progress on fighter aircraft and integration of indigenous missiles on them is likely to be positive for HAL, BDL, BEL and Astra. In particular, we see benefits for BEL (TP: INR 150; **BUY**) and Astra (TP: INR 425; **BUY**) in the near term.

### Key developments in Aug'23

- Tejas fighter aircraft successfully test-fired an Indian-made Astra Mk1 air-to-air missile.
- As per media reports ([Link](#)), Indian Air Force (IAF) is likely to order additional 100 Tejas Mk1A fighter jets. This is over and above the 83 Mk1A jets that have already been ordered.
- IAF has likely placed orders for long range glide bombs.
- Indian Army inducts lighter and compact version of Weapon Locating Radar (SWATHI Mountains) developed by BEL.
- The Naval Science & Technological Laboratory (NSTL) envisages the development of nex-gen submarine launched torpedo for the Indian Navy.
- Indian Navy has issued RFI for 12nos. Mine Counter Measure Vessels (MCVL) for delivery from 2030-37.
- Guided Pinaka Rocket System is expected to enter final user trials in 1-2 months.
- HAL has completed the production of LCH Prachand 'Tank Buster' helicopters ahead of its contracted schedule.
- Hindustan Shipyard has received an order worth INR 190bn for 5 fleet support ships.
- BEL has received orders worth INR 32.9bn, taking the order inflow to INR 113.8bn thus far in FY24.
- Adani Defence has secured the order from the Indian Army for UAV-launched Precision Guided Munition (ULPGM).
- Astra Microwave has received orders worth INR 1.58bn, for supplies of radars, satellite subsystems and EW suite over 12-18 months.
- MDL is planning to acquire a new floating dry dock (valued at over USD 10bn), which may play a pivotal role in constructing eight Next Generation destroyers for the Indian Navy.

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**Astra Microwave (BUY)**

**BEL (BUY)**

**BDL (BUY)**

**Solar industries (BUY)**

**HAL (ADD)**

**MIDHANI (HOLD)**

**GRSE (SELL)**

**MDL (SELL)**

## Outlook: Sustained traction in defence spending bodes well

In our view, continued AoNs, orders and tests even in pre-election year (General Elections are due in CY24) bode well for the defence sector. It allays apprehensions of investors pertaining to orderbook accretion. In this respect, we find BEL particularly in vantage position, having crossed 50% of order flow guidance (of INR 200bn) for FY24 already. We also see order accretion at Astra Microwave gathering momentum led by tickle-down effect from orders issued to BEL. In case of HAL, we are positive on the timely delivery of LCH Prachand; however, we will monitor the progress around the deliveries of Tejas and Tejas Mk1A. In case of naval platforms, we find a lot of optimism being built in the stocks on the likely ordering; however, we prefer to wait for specific order inflow. In the sector, BEL (BUY; TP: INR 150), BDL (BUY; TP: INR 1,325), Astra Microwave (BUY; TP: INR 425) and HAL (ADD; TP: INR 4,350) remain our key picks.

## Orders in Aug'23

- MoD has signed a contract worth INR 190bn with Hindustan Shipyard for the acquisition of five indigenous Fleet Support Ships for the Indian Navy. They are designed to support ships of all classes, including the two Indian aircraft carriers. The first ship is likely to be delivered in CY27, followed by one ship every year. ([Link](#))
- The Ministry of Defence has approved capital acquisition proposals worth INR 78bn, which include the procurement of an electronic warfare suite for Mi-17 helicopters from BEL, procurement of 40,000nos. 7.62x51mm LMG (light machine guns), acquisition of Hellfire missiles and Mk 54 Torpedoes for MH-60 anti-submarine helicopters of the Indian Navy. The DAC has also given AoN for the purchase of a ground-based autonomous system for mechanised infantry and armoured regiments, enabling various operations like unmanned surveillance, logistic delivery of ammunition, fuel and spares, and evacuation on the battlefield. In our view, BEL is likely to receive orders worth INR 28-30bn from these proposals. ([Link](#))
- BEL has secured orders worth INR 32.9bn (including non-defence) for the supply of radars, jammers, encryptors, SONARs, AMC and spares. These also include Lol worth INR 10.75bn from Hindustan Shipyards for supply of CMS, communication systems, EW systems and other sensors for fleet support ships. ([Link](#))
- Astra Microwave has received orders worth INR 1.58bn, to be executed over the next 12-18 months. These include: 1) INR 168mn worth of order from ISRO for supply of satellite sub-systems and weather data processing system; 2) INR 1.204mn worth of order from DRDO for supply of satellite sub-systems and airborne radar; and 3) INR 208mn worth of order for supply of radar and EW sub-systems from a DPSU. ([Link](#))
- BEML has received a contract worth INR 1.01bn (USD 12.2mn) from the Indian Army to supply an unknown number of command post vehicles (CPVs). ([Link](#))
- BEML has received a contract for export order from M/s KAMSS Ltd, Russia, for BEML Dozer BD355 valuing USD 19.71mn. The contract is likely to be executed in different phases starting Aug'23, for which purchase order has been received. ([Link](#))
- Adani Defence has revealed that Indian Army has placed a limited series production order for ULPGM (UAV-launched precision-guided munitions). These munitions are characterised by body wings, control fins, and a jet vein control system for optimal manoeuvrability. They will be incorporated into Archer UAVs and TAPAS drones, serving as effective tools for targeting armoured vehicles, artillery units, and command and control stations. ([Link](#))

- Kerala Minerals and Metals Limited has secured the prestigious contract worth INR 1.05bn from the Indian Navy for the supply of 650te of titanium sponge. This material is scheduled to be delivered over a span of five years. Titanium sponge has exceptional properties, such as high strength, low density, and excellent corrosion resistance, making it an ideal material for manufacturing nuclear reactors of nuclear attack submarines. ([Link](#))
- India Optel Ltd has successfully secured an order for 13,482 Advanced Telescopic Sights from the Indian Army. These sights will be integrated with 7.62x51mm 6716 rifles. After undergoing an extensive three-year testing phase, these telescopic sights have proven their capabilities, allowing accurate targeting at a distance of 800m. ([Link](#))
- Dakhsa Unmanned Systems has secured a significant contract worth INR 1.65bn from the Indian Army to supply 200 DH-HM medium altitude logistics drones with accessories for efficient and agile transportation of essential supplies to frontline troops. The drone can carry over four kilograms of payload and has an endurance of more than four hours with a range of 20km. The delivery of this order is anticipated within the next 12 months. ([Link](#))
- Idea Forge has announced its successful bid for INR 880mn order to supply surveillance quadcopters, along with accessories, to one of the Indian armed services. The Metro V4 Plus is a smart and portable UAV boasting an operational range of 10km and an endurance of 60 minutes. ([Link](#))
- The Advanced Weapons and Equipment India Limited has announced orders worth INR 60bn. This includes an order for 300 Sarang artillery systems upgrades from the Indian Army and orders worth INR 4.5bn received from European countries. ([Link](#))
- Indian Air Force has entered into INR 3bn contract with Veda Aeronautics for the procurement of 200 swarm drones. These drones, forming a Swarm Unmanned Munition System, are catapult-launched jet-powered drones with a range exceeding 150km. This capability allows for precision strikes on heavily fortified enemy airbases, camps, and vital installations. ([Link](#))
- Kalyani Strategic Systems has secured two export orders worth INR 8.5bn from friendly countries. These orders involve the supply of components and armoured vehicle chassis, scheduled for delivery in the next 18 months. ([Link](#))
- The Indian Army has signed a contract with L&T for the procurement of an unspecified number of 5mt short span bridges. These bridges will enhance the mobility of mechanised columns on the Western Front, enabling them to swiftly overcome obstacles during operations. ([Link](#))
- The joint venture between India and Israel, Kalyani Rafael Advanced Systems, has secured INR 2.875bn worth of order from the Indian Defence Ministry for the supply of missile kits. These kits are integral to MR-SAM (Medium Range Surface to Air Missile) defence system, a collaborative effort between Rafael Advanced Defense Systems and DRDO manufactured with the active involvement of the Indian industry. ([Link](#))

## Orders expected in H2FY24

- Order for Pinaka rocket system to Munitions India and Economic Explosives Limited (a wholly-owned subsidiary of Solar Industries) worth INR 81bn.
- Order for MRSAM from the Indian Army and the Indian Navy.
- Order to MIDHANI for supplying KANCHAN armour modules for Arjun MBT from AVANI.
- Order for fuses worth INR 45bn from the Indian Army for BEL.
- HAL: Su-30 orders worth INR 120bn; AL31FP and RD33 engine orders worth INR 305bn and RoH orders worth INR 170bn.

## In focus

### Export business opportunities are building up for domestic companies

In Aug'23, there was an interest from a number of countries for Indian products and services, mainly for Airforce and Navy. There were visits by delegations from Peru and Guyana to MDSL facilities. In addition, the Philippines Navy is deliberating the acquisition of Scorpene class submarines developed by France. A delegation from Philippines Navy recently visited the facilities of Naval Group in France and is considering the option of manufacturing these under licence agreement where MDSL might play a pivotal role. Besides, The Chief of Philippines Coast Guard also visited Goa Shipyard to witness an offshore patrol vessel. Additionally, Kenya Shipyard has signed a Memorandum of Understanding with Goa Shipyard to foster capacity building and join its ship design and construction endeavours. Furthermore, the Kenyan Navy is also looking to acquire an Indian-built frigate.

The Argentinian ambassador to India has indicated that the procurement of the Tejas Mk1A aircraft is still being considered by the Argentine Air force subject to the replacement of the British components. Besides, Guyana's National Security Advisor expressed interest in procuring Dornier aircraft manufactured by HAL along with other defence equipment. Kenya is also considering the purchase of LCH Prachand. Malaysia is also open to discuss the sourcing of components and spare parts for the Royal Malaysian Air Force's Su-30MKM aircraft. HAL has offered its services to the Royal Malaysian Air Force for servicing the Su-30 aircraft in India and has also proposed the Super Sukhoi upgrade package.

### Additional 100nos. Tejas Mk-1A jets might spur manufacturing revenue at HAL

As per media reports ([Link](#)), IAF is likely to order an additional 100 Tejas Mk1A fighter jets. This is over and above the 83 Mk1A jets that are already on order. As on date, the Indian Air Force has placed firm orders for a total of 141 Tejas fighter jets of which 40 are Mk1 type whose delivery may complete in FY24. A squadron of 18 Tejas trainers have also been ordered. Delivery completion schedule is by CY25. Delivery of the first Mk1A jet is scheduled for early 2024, with order completion by 2028. Next is the second order of 100 Tejas Mk1A jets, with media reports suggesting these additional 100 Mk1As may be delivered by CY29. The current production capacity of HAL is 24 jets (16 in Bengaluru and 8 in Nashik). Consequently, bearing in mind that the scheduled completion of the first order for 83 Mk1As is 2028, a 2028-29 timeline for an extra 100 Mk1As can be met only if more production lines are established.

### GE-HAL deal gets 'No Objections' in US Congress

The GE-HAL jet engine deal is expected to receive US Congressional approval in the coming days. The recent expiration of the legal notification period on Aug 27, '23 allowed US Congress members the opportunity to raise objections to the transfer of

technology for the GE F-414 engine to India. However, both Republicans and Democrats have rallied their support for the deal. The partnership aims to produce 99 F-414 engines under license, and the signing of the agreement is expected to take place in FY24 itself.

**Order accretion for Astra Microwave could get a boost contingent on Tejas Mk-1A**  
 Around half Tejas Mk1A jets (of 83nos.) are likely to carry an Israeli AESA radar; it is far more advanced than the pulse doppler acquired by trainers and Mk1s. The rest, starting ~2026, may carry DRDO's Uttam Gallium Arsenide AESA radars. The additional 100nos Tejas Mk-1A jets are likely to carry Gallium Nitride Uttam AESA radar, which is significantly more powerful than Gallium Arsenide radar. In our view, this could imply significant order book/revenue accretion for Astra Microwave, a key enabler for the company's guidance of recording INR 100bn of revenue over the next 5 years.

#### **Conducted successful tests of Astra missile from Tejas Fighter jet**

The successful maiden launch of indigenously developed Astra Air-to-Air (A2A) BVR missile from Tejas fighter jet was done in Aug'23. The defence ministry has already placed an order for 248 Astra Mk-1 missiles- 200 for the Indian Airforce and 48 for the Indian Navy. DRDO is also working on newer longer version of the missile, called Astra Mk-2, which is reported to be equipped with a new seeker, providing better target detection and improved jammer resistance to the missile. Besides, development is also going on for Astra Mk-III which will have a range of over 300km and will be powered by a solid fuel-based ducted ramjet (SFDR) propulsion system.

#### **P75I: Winner takes all; bids submitted; evaluation likely to take 18months**

After South Korea's Hanwah Ocean withdrawing from the race, a strong two-way contest is in the offing for INR 430bn worth of P75I submarine programme. The stakes are high for both Mazagon Dockyard Shipbuilders (MDSL) partnering with Germany's TKMS and L&T partnering with Spain's Navantia as L1 bidder is likely to get all the six submarines. TKMS has presented its Type 214 CD variant. On the other hand, Navantia has offered its S80 Plus submarine. This submarine is set to feature third-generation air-independent propulsion technology along with lithium-ion batteries.

#### **MDSL is gearing up for possible P76, next-gen Destroyers programmes in future**

MDSL is planning to acquire a new floating dry dock, which may play a pivotal role in constructing eight Next Generation destroyers for the Indian Navy. Valued at over USD 10bn, next-gen destroyers will be built in two phases. The final configuration is slated for determination next year, with construction commencing in CY26 and induction scheduled for CY31.

Furthermore, MDSL has joined forces with Warship Design Bureau to embark on P76. This collaborative effort aims to design 12 indigenous Next Generation conventional submarines for the Indian Navy. The goal is to finalise a comprehensive and robust design by CY28, laying the groundwork for construction and production activities to commence by CY32.

MDSL has embarked on an active collaboration with the French firm Naval Group to finalise the selection of new equipment for the three additional Kalvari-class submarines. These submarines are anticipated to incorporate significant enhancements in terms of equipment and technology compared to the initial six Scorpene submarines. Besides, the indigenisation levels are expected to be far higher.

#### **Indian Navy is looking for fast-track procurement of Rafale-M jets**

The Indian Navy is seeking to expedite the delivery of 26 Rafale-M fighter jets from France to prevent a three-year gap before the first delivery of Rafale jets. Additionally, the Navy is also planning to train fighter pilots from the French Navy jets rather than commencing training after the first Indian jets gets delivered. The price negotiations

for procuring these fighters will begin soon, as well. Prior to PM Modi's visit France last month for a two-day trip (Jul 13-14) to participate in the Bastille Day parade, DAC approved the procurement of 26 Rafale-Ms for the Navy. This deal is likely to cost the Indian Navy Euro 5.5bn, wherein 22 single seater Rafale-Ms and 4 two-seater Rafale-Bs trainer aircraft will be bought for a total of 26 Rafale jets.

**Indian Navy issues RFI for Mine Counter Measure Vessels (MCMVs)**

The Indian Navy has issued RFI to procure 12 MCMVs from Indian Shipyards. The MCMVs are set to be built in a phased manner over eight years, with the order split between L1 and L2 shipyards in a ratio of 8:4. The anticipated delivery timeline for the MCMVs is proposed to be between CY30 and CY37. The vessels are expected to carry out various operational roles, including Mine Counter Measure operations using unmanned MCM suite, channel mapping, route survey and sanitisation, search and rescue operations, mine laying and local naval defence.

### Exhibit 1: Valuation table I of companies under our coverage

Companies	P/E (x)			EV/EBITDA (x)			P/B (x)		
	FY23	FY24E	FY25E	FY23	FY24E	FY25E	FY23	FY24E	FY25E
Astra Microwave	46.1	26.1	20.3	23.2	15.7	12.5	5.2	4.4	3.7
Bharat Dynamics	61.3	42.5	29.5	43.4	27.4	17.3	6.7	5.4	4.4
Bharat Electronics	34.9	30.7	25.3	22.4	17.3	14.2	7.4	7.2	6.7
Garden Reach	41.0	14.5	11.8	32.0	6.8	7.8	6.6	3.8	3.0
Hindustan Aeronautics	22.8	26.5	24.9	16.7	14.7	13.6	5.6	4.7	4.1
MIDHANI	51.0	41.2	29.8	32.2	26.1	19.7	6.2	5.2	4.7
Mazagoan Dockyard	36.8	31.5	32.8	30.6	23.7	24.1	8.1	6.3	5.4
Solar Industries	52.3	36.5	30.4	33.6	23.5	19.5	16.3	10.3	7.9

Source: I-Sec research, Company data

### Exhibit 2: Valuation table II of companies under our coverage

Companies	RoE (x)			RoCE (x)			Book/Bill (x)		
	FY23	FY24E	FY25E	FY23	FY24E	FY25E	FY23	FY24E	FY25E
Astra Microwave	11.7	19.0	21.1	12.3	18.1	19.7	1.9	1.9	1.7
Bharat Dynamics	11.8	14.6	18.1	8.1	11.2	14.7	9.6	6.8	4.6
Bharat Electronics	24.0	25.0	28.0	19.6	18.5	19.6	3.4	2.9	2.3
Garden Reach	18.0	31.8	31.8	6.5	20.5	25.9	9.4	7.1	8.3
Hindustan Aeronautics	30.0	20.4	18.7	22.0	16.0	14.8	3.0	4.0	3.5
MIDHANI	13.2	13.9	17.4	10.1	10.5	13.2	1.5	1.3	1.0
Mazagoan Dockyard	27.9	25.5	20.6	13.4	12.3	11.8	4.9	4.0	3.1
Solar Industries	35.5	31.3	28.6	27.2	26.1	25.1			

Source: I-Sec research, Company data

### Exhibit 3: Orderbook of companies under our coverage

Orderbook (INR bn)	FY18	FY19	FY20	FY21	FY22	FY23	FY24E	FY25E
HAL	611	586	530	806	822	820	1,150	1,087
BEL	401	520	520	534	576	605	598	555
BDL	89	73	74	84	103	240	218	187
Astra	5	12	14	16	16	15	18	19
Midhani	6	17	17	14	13	13	13	12
MDL	-	-	541	497	460	385	344	297
GRSE	203	216	265	257	240	241	299	356

Source: I-Sec research, Company data

### Exhibit 4: EPS growth of companies under coverage

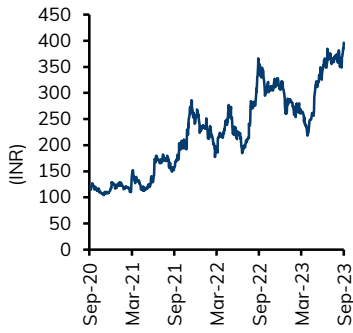
EPS Growth (%)	FY18	FY19	FY20	FY21	FY22	FY23	FY24E	FY25E
Astra Microwave	6.1	(84.0)	351.2	(34.5)	29.8	84.4	80.3	29.0
Bharat Dynamics	0.8	(20.0)	26.6	(51.8)	107.0	(34.0)	40.0	43.8
Bharat Electronics	(13.9)	31.8	(3.3)	(61.6)	14.3	24.4	12.9	20.9
Garden Reach	12.4	26.7	48.7	(6.1)	23.6	20.3	60.7	26.1
Hindustan Aeronautics	(18.0)	17.0	23.4	12.7	56.8	14.7	(18.8)	6.3
MIDHANI	3.9	(0.5)	21.1	5.3	6.1	(11.5)	14.3	21.1
Mazagoan Dockyard	(17.1)	7.3	(11.6)	9.2	18.9	83.2	9.2	(3.7)
Solar Industries	18.2	18.6	2.2	3.3	59.7	71.7	16.0	20.9

Source: I-Sec research, Company data

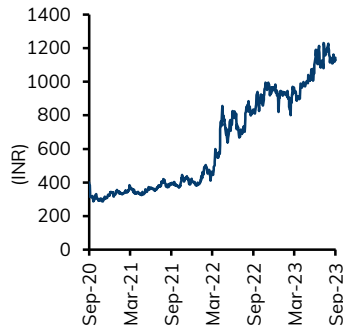


**Price charts**

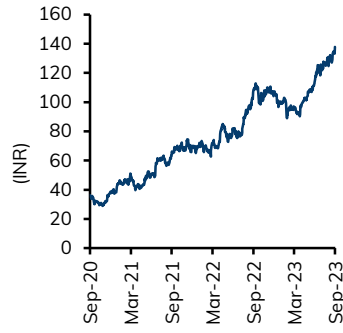
**Astra Microwave**



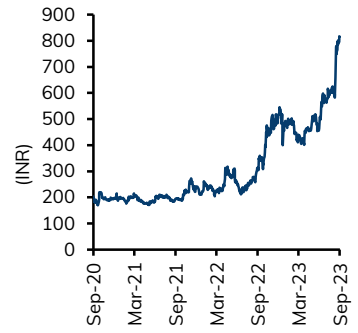
**Bharat Dynamics**



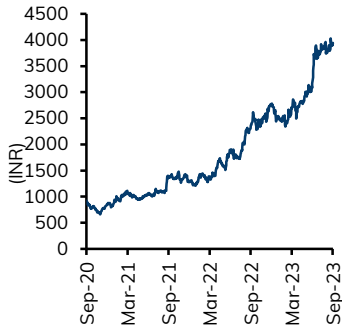
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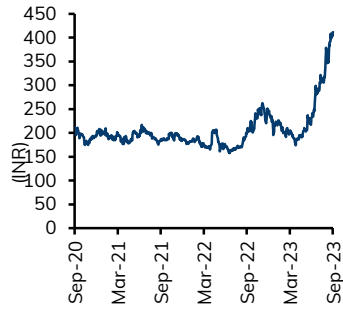
**Garden Reach**



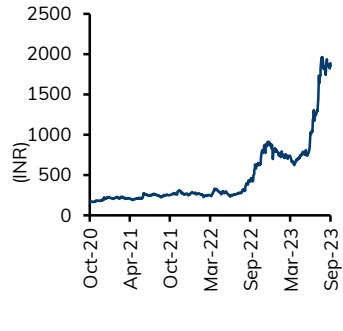
**Hindustan Aeronautics**



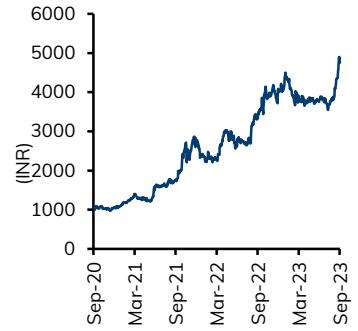
**MIDHANI**



**Mazagoan Dockyard**



**Solar Industries**



Source: Bloomberg



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