

09 October 2023

India | Equity Research | Sector Update

## Defense

### Digest #6/24: Getting future ready

The pace of ordering, encompassing all the three services continued in Sep'23 as well (from Aug'23) Key points: 1) Acceptance of Necessity (AoN) worth INR 450bn was approved for various platforms by DAC. 2) The IAF along with the Indian Army moved a proposal to the defence ministry to procure 156 LCH-Prachand. 3) Project to upgrade Su-30 aircraft receives the necessary clearance and budgetary sanctions from the MoD and the Indian Air Force. 4) RFP for Next Gen Destroyer programme is likely by CY26. 5) BEL received INR 30bn worth of orders, taking the total order inflow for FY24 to INR 143.8bn thus far. We remain positive on defence space with BEL (**BUY**; TP: INR 150), BDL (**BUY**; TP: INR 1,325) and HAL (**ADD**; TP: INR 4,350) - as our key picks.

### Key developments in Sep'23

- The DAC has accorded the AoN to nine capital acquisition proposals worth INR 450bn covering all the three armed forces ([Link](#)).
- IAF, in a joint acquisition, with Indian Army has moved the proposal to defence ministry for buying 156 LCH-Prachand, with likely project value of INR 1,500bn ([Link](#)).
- The President of Nigeria (Bola Ahmed Tinubu) has informed that the Defence Cooperation of Nigeria has signed a USD 1bn defence deal with the military-industrial complex of the Indian government. This deal will help Nigeria achieve 40% self-reliance in military hardware manufacturing by CY27 ([Link](#)).
- Indian Army plans to acquire 1,200 towed gun systems, in line with the Army's mediumisation plans likely to be completed by 2042 ([Link](#)).
- The Next Generation Destroyer programme is in conceptual studies phase, with the request for proposal set to be issued in CY26. ([Link](#))
- The last stealth frigate of Project 17A, Mahendragiri was launched into water and the frigate is scheduled to be commissioned into the Indian Navy by CY27 ([Link](#)).
- The Indian Navy is in the process of procuring counter-drone systems worth INR 4.9bn. ([Link](#))
- Indian Army has released a request for information on procurement of 170 armoured recovery vehicles under the 'Make in India' programme. ([Link](#))
- The IAF is restarting the process of acquiring mid-air refuelers, and a request for the proposal to purchase six refuelling aircraft is likely to be issued within the next six months ([Link](#)).
- Mazagon Dock Shipyard has signed a master Ship Repair agreement with the US government, encompassing maintenance, overhaul, and refurbishment activities. ([Link](#))
- A modernisation project to upgrade Su-30 aircraft receives the necessary clearance and budgetary sanctions from the MoD and the Indian Air Force ([Link](#)).
- After successful development trials, an agreement for the production of Uttam radar was signed among DRDO's Electronics and Radar Development Establishment, HAL and industry partners. ([Link – pg5](#))
- US Congress has granted approval to an agreement between General Electric and Hindustan Aeronautics for manufacturing F-414 engines in India. This approval includes 80% transfer of technology. ([Link](#))

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**Astra Microwave (BUY)**

**BEL (BUY)**

**BDL (BUY)**

**Solar industries (BUY)**

**HAL (ADD)**

**MIDHANI (HOLD)**

**GRSE (SELL)**

**MDSL (SELL)**

## Outlook: Long-term focus on modernisation is evident

The month of Sep'23 reinforced our belief that domestic defence story has more legs. Platforms such as sestroyers, LCH-Prachand, towed gun systems may all go beyond CY30E and present a long runway of orderbook accretion for companies such as HAL, BDL and MDL. That said, we believe BEL stands at a vantage point with stake in every platform, irrespective of fluctuations in capital spends by services. In our view, Astra Microwave may also benefit from the developments on Uttam AESA radar and EW systems. In defence sector, we continue to recommend BEL (**BUY**; TP: INR 150), BDL (**BUY**; TP: INR 1,325) and HAL (**ADD**; TP: INR 4,350) as our key picks.

## Orders/AoNs in Sep'23

- The DAC has approved nine capital acquisition projects worth INR 450bn. These include the acquisition of 12 more Su-30 fighter jets and their associated equipment worth INR 115bn, five Next Generation Naval survey vessels worth INR 33bn, 800 light armoured multi-purpose vehicles, integrated surveillance and targeting systems worth INR 20bn, and over 200 Drew Astro anti-tank guided missiles worth INR 7bn for Rudra attack helicopters ([Link](#))
- Kalyani Raphael Advanced Systems has received a contract worth INR 2.87bn from the MoD for supply of missile systems. Under this contract, unspecified units of Spike SR next-generation Man-Portable Anti-Tank Guided Missiles will be delivered to the Indian armed forces. The order is likely to complete over the next 12 months. ([Link](#))
- Veda Defence Systems has secured an order worth INR 3bn to deliver 200 Veda-X long-range swarm drones to IAF. This order represents the largest by value to a local start-up by the IAF and is likely to be delivered in the next 12 months. ([Link](#))
- Zen Technologies has secured an order worth INR 1233mn from the MoD for the supply of counter-drone systems and simulators designed to train personnel across the Indian armed forces. Delivery and installation are likely over the next 12 months ([Link](#)). The company has also received an order worth INR 2.28bn to supply anti-drone systems. Zen Technologies is the sole vendor for this order. The contract also encompasses a comprehensive maintenance contract (CMC) post-warranty, valued at INR 432.2mn. ([Link](#))
- BEL has received an order worth INR 21.2bn from Cochin Shipyard. This order involves the supply of sensors, weapon equipment, fire control systems, and communication equipment for the upcoming six Next Generation missile vessels of the Indian Navy. BEL has also received additional orders worth INR 8.86bn for the upgrade of Air Force Network, satcom upgrade of Akash missiles with RF seeker, and inertial navigation system. ([Link](#)).
- The Indian Navy has signed a contract worth INR 21.5mn with Radome Technologies for procurement of artificial intelligence in aircraft health monitoring. This integration of artificial intelligence aims to enhance aircraft maintenance practices and ensure that these assets remain in optimal condition ([Link](#)).
- Apollo Micro Systems has been declared as the lowest bidder in multiple projects from the Defence Research and Development Organisation (DRDO) and another government sector company. These projects hold a cumulative value of INR 281.5mn ([Link](#)).

- Astra Rafael Comsys Private Limited (a JV of Astra Microwave) has bagged INR 964.9mn worth of order from the Indian Air Force for supply of B-Kits, testers and trainer specific A-Kits for SDR sets of MIG-29 upgraded aircraft. In Sep'23, it received total orders worth INR 2.84bn (including present order of INR 964.9mn); total pending orderbook stands at INR 5.95bn ([Link](#)).

### Orders likely in H2FY24E

- 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 opportunities are gathering steam

The President of Nigeria has informed that the Defence Cooperation of Nigeria has signed a USD 1bn defence deal with the military-industrial complex of the Indian government. This deal will help Nigeria achieve 40% self-reliance in military hardware manufacturing by CY27 ([Link](#)). The deal was signed during the India visit (Sep 10, '23) of the Nigerian president and will provide funding and expertise to Nigeria to manufacture a wide array of military products, including tactical aircraft, drones, rifles, ammunition, artillery systems, armoured vehicles and advanced communication systems.

Indonesia's ambassador to India has expressed interest in acquiring BrahMos shore-based anti-ship missiles from India. This expression of interest follows advanced discussions between India's BrahMos Aerospace and Indonesian authorities regarding a USD 350mn deal. Price negotiations are progressing well and the deal is likely to be finalised in CY24. ([Link](#))

The Brazilian Army Commander (mention full name and when the visit was) paid a strategic visit to BEL plant in Bangalore to explore the Akash surface-to-air missile systems. The Brazilian Army Commander has shown keen interest in the system, which had already received its first export order from Sudan in CY21. Further, the Brazilian Army Chief of Staff inspected the Dhanush Howitzer and the DRDO-developed ATAGS. After a thorough examination, he has confirmed Brazil's interest in procuring 40 artillery guns from India in the first phase, with the possibility of acquiring more in subsequent stages. ([Link](#))

The Japanese Prime Minister, Fumio Kishida, has expressed Japan's willingness to engage in direct government-to-government defence deals with India instead of participating in open tenders for Indian military requirements. This opens up an opportunity for Japan to participate in the MTA (Medium Transport Aircraft) programme of the Indian Air Force with its Kawasaki C-2 advanced military transport aircraft, which features a larger cargo hold allowing it to carry significantly heavier loads compared to the C-130J. ([Link](#))

India's MKU Limited is all set to receive an order for 10,000 advanced helmets and 3,250 tactical vests from the Philippines Army. MKU Limited, an Indian private sector

firm, had also won previous tenders and is delivering the Cabro Advanced Combat Helmets and Cabro Tactical Vests in multiple procurement projects to the Philippines Army. ([Link](#))

Lithuania's State Border Guard Services have selected India's MKU Limited as their supplier of tactical ballistic helmets. MKU has offered its Cabro Ultra-lightweight helmet to Lithuania that offers unmatched agility and protection for Marines. The Cabro ballistic helmet system guarantees top-tier safety against high-energy threats and includes night vision monocular sight and thermal weapon sight. ([Link](#))

### **HAL to benefit the most from the recently issued AoNs**

The DAC has accorded AoN to nine capital acquisition proposals worth INR 450bn under BUY (Indian)/BUY (IDDM) categories for: 1) Acquisition of 12 additional Su-30MKI fighter jets from HAL at an estimated INR 120bn; 2) avionics upgradation of Dornier aircraft for improving the operating accuracy and reliability. We estimate the opportunity at INR 50-60bn spread over the next couple of years, benefitting HAL; 3) procurement of Dhuruvasthra (HELINA) ATGM for use on ALH Mk-IV or Rudra helicopters. We peg this value at INR 5-6bn and the initial ordering might be swift under emergency procurement, followed by larger quantities later. BDL is likely to be the primary beneficiary; 4) procurement of next-gen survey vessels for the Indian Navy. We peg the opportunity at INR 25-30bn (5nos) and expect GRSE and other shipyard companies to benefit; 5) procurement of high mobility gun towing vehicles to facilitate the swift mobilisation and deployment of artillery guns and radars. Recently, Indian Army ordered 4x4 Field Artillery Tractor (FAT) and 6x6 Gun towing vehicle- both featuring in the Ministry of Defence's (MoD) positive indigenisation list- from Ashok Leyland; 6) procurement of light armoured multipurpose vehicles. We peg the potential order size at 800 units at the total cost of INR 8-10bn; and 7) acquisition of integrated surveillance and targeting system. We expect this opportunity for drones. Furthermore, the Defence Minister (Rajnath Singh) also emphasised the aspiration of aiming for 60-65% indigenous content rather than a threshold of 50% for IDDM projects. ([Link](#))

### **Order inflow for BEL continues**

BEL has received an order worth INR 21.2bn (22% of total order value) from Cochin Shipyard for supply of various equipment consisting of sensors, weapon equipment, fire control systems and communication equipment for 6nos. Nex-gen Missile Vehicles (NGMV). Besides, the company has also received additional orders worth INR 8.9bn in the past 20 days pertaining to an upgrade of Akash Missiles with RF seeker, Inertial Navigation System and upgrade of AFNET SATCOM N/W. This takes the total order inflow thus far in FY24 to INR 143.8bn. We also expect trickle down benefits to BEL from the currently issued AoN for procurement of Su-30 MKI, avionics upgradation of Dornier aircraft, procurement of Dhuruvasthra and nex-gen survey vessels.

### **Possible procurement of 156nos. LCH-Prachand comes as a shot in the arm for HAL**

IAF, in a joint acquisition, with Indian Army has moved the proposal to defence ministry for procurement of additional 156 LCH-Prachand, in which 66units would be inducted by the IAF, while the remaining units would be acquired by the Indian Army. Prachand is India's first indigenous multi-role combat helicopter, developed by Hindustan Aeronautics Limited (HAL). It is designed to meet the specific needs of the Indian armed forces for operating in deserts and high-altitude areas. Notably, the Prachand helicopter is also very close to getting its first export order from Nigeria for 12 units, while the total number of domestic orders is expected to go beyond 300 to meet full Indian military requirements. These helicopters will be equipped with MR all-air-to-air missiles and DRDO Astro anti-tank guided missiles. This is likely to benefit BDL. ([Link](#))

IAF is also considering the acquisition of more than 100 loyal wingman aircraft, being developed by HAL in collaboration with NewSpace Research and Technologies. Testing of a scaled model of the loyal wingman has already commenced, with plans for testing a full-scale model after CY25. The first full-scale prototype of the Catax stealth unmanned combat aerial vehicle is likely to be ready by CY25. Total requirement stands at 100 unmanned combat aerial vehicles (UCAVs) for the Air Force, offering a cost advantage of 50% less than traditional fighter jets. ([Link](#))

### **Indian Army plans to acquire 1,200 towed gun systems**

The Indian Army has moved a proposal worth INR 60bn-INR 65bn to defence ministry to acquire next generation Towed Guns Systems (TGS) which will be developed and manufactured by domestic companies. Army aims to acquire 400 guns initially with total requirement estimated at 1,200 guns ([Link](#)). The procurement process is a part of the Army's plan for mediumisation with indigenous guns and is likely to be completed by 2042. Companies such as L&T, Tata Defence, and Bharat Forge are likely to vie for the contract once it is approved by the defence ministry.

In the last decade, four contracts for the purchase of 155 mm howitzers have been finalised. Dhanush, Sharang, Ultra-Light Howitzers (ULH) and K-9 Vajra Self-Propelled Guns are some of these weapon systems ([Link](#)). Seven regiments have already been equipped with ULHs while five have been equipped with self-propelled guns. Earlier, Indian Army had released a tender to locate a mounted gun system for its needs along the borders with China and Pakistan in addition to one to find 307 Advanced Towed Artillery Gun Systems (ATAGS) ([Link](#)). As per reports, the 18-ton ATAGS might not be the optimal solution for all types of terrain. To address this concern, Indian Army is exploring the acquisition of 155mm 52-caliber guns that fall below 15 tons. The 14te Danish howitzer could face competition from the 8te mountain artillery gun extended range of Kalyani Strategic Systems, which boasts an impressive firing range of 41 km. ([Link](#))

Recently, Bharat Forge confirmed that Armenia has ordered 90 ATAGS howitzers worth INR 12.65bn. The company has successfully delivered six ATAGS to Armenia last month, with 84 more ATAGS to be delivered in a phased manner over the next 3 years. Bharat Forge is actively bidding for international programmes and is in talks with 12 countries for export, including the US and several countries from Southeast Asia, Africa and Europe. ([Link](#))

### **Production agreement signed for Uttam AESA radars**

After successful development trials, an agreement for the production of Uttam radar was signed among DRDO's Electronics and Radar Development Establishment, HAL and industry partners. The rollout of Tejas Mk1A jets equipped with Israeli Elta 2052 radar will commence in Feb, CY24. However, the units equipped with Uttam radar will rollout in CY26, starting with 21st Tejas Mk1A aircraft ([Link](#)). As per estimates, 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 ~CY26, may carry DRDO's Uttam Gallium Arsenide AESA radars. The additional 100nos Tejas Mk-1A jets may carry Gallium Nitride Uttam AESA radar, which are 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. ([Link](#))

**Modernisation project to upgrade Su-30 aircraft receives the necessary clearance** A modernisation project to upgrade Su-30 aircraft receives the necessary clearance and budgetary sanctions from the MoD and the Indian Air Force. This initiative is set to commence from FY26-FY27. HAL will embark on a multi-year effort to upgrade approximately 20-25 aircraft per year so that the entire Su-30 fleet transitions to the

new Su-30 configuration by CY34. HAL will deploy two flying test beds in Bangalore that will validate the final configuration of these upgrades and conduct essential testing. The new Su-30 will feature a revamped cockpit with new generation touch widescreen displays, upgraded mission control computer, enhanced weapons package and electronic countermeasures. ([Link](#))

### Exhibit 1: Valuation 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	53.7	30.3	23.6	26.9	18.3	14.6	6.1	5.1	4.3
Bharat Dynamics	51.8	42.5	29.5	35.3	27.4	17.3	5.7	5.4	4.4
Bharat Electronics	34.6	30.3	25.0	22.1	17.3	14.2	7.3	7.1	6.6
Garden Reach	41.0	14.5	11.8	31.9	6.8	7.8	6.6	3.8	3.0
Hindustan Aeronautics	11.2	26.5	24.9	6.6	14.7	13.6	2.8	4.7	4.1
MIDHANI	49.8	41.2	29.8	31.5	26.1	19.7	6.0	5.2	4.7
Mazagoan Dockyard	41.5	31.5	32.8	36.7	23.7	24.1	9.1	6.3	5.4
Solar Industries	57.4	36.5	30.4	36.8	23.5	19.5	17.8	10.3	7.9

Source: I-Sec research, Company data

### Exhibit 2: Valuation 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

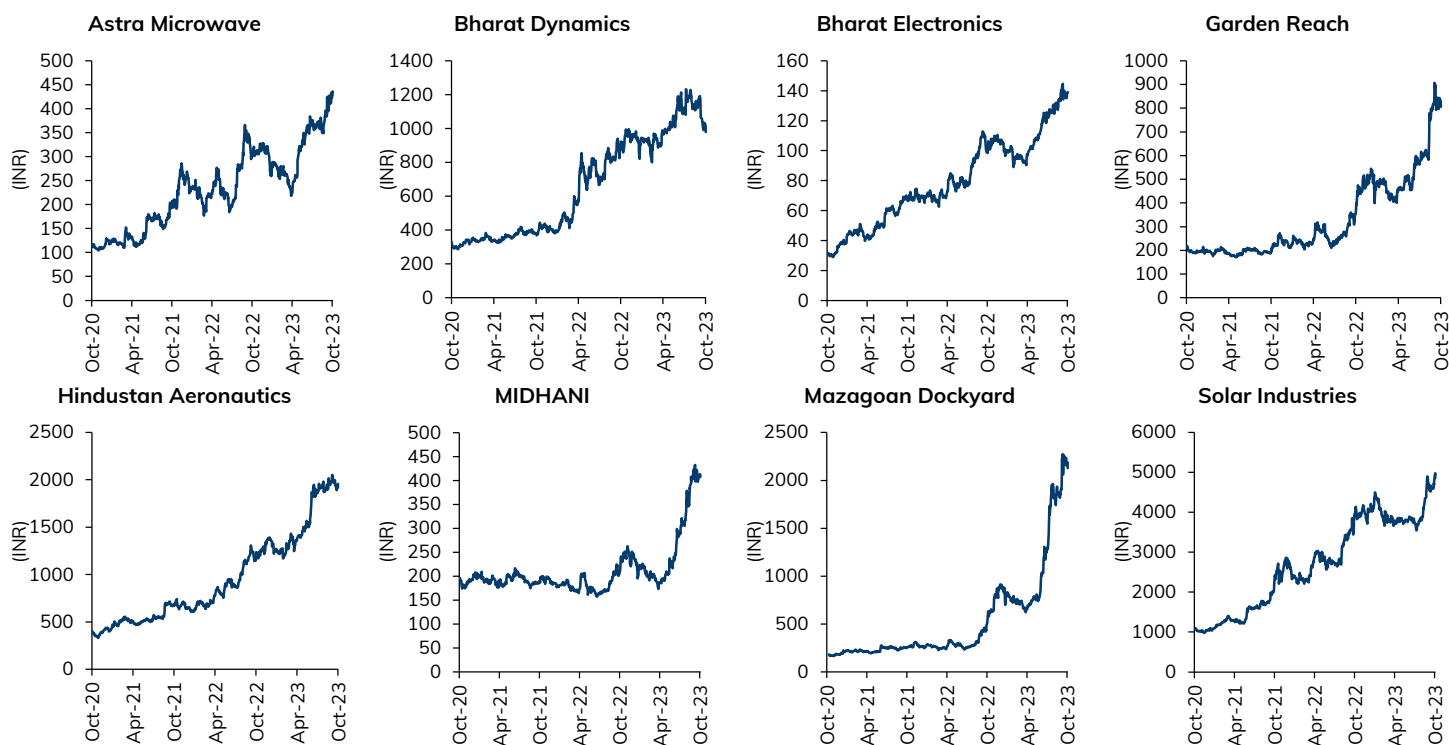
### Exhibit 4: EPS growth of companies under our coverage

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



Source: Bloomberg

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