28 July 2025

Hindustan Aeronautics

Accelerating to a stable flight path; Buy

Rating: **Buy**
Target Price (12-mth): Rs.5,950
Share Price: Rs.4,508

Incorporated in 1963, Hindustan Aeronautics is a public sector Defence undertaking, the only Indian company to design, develop and assemble aircraft, helicopters & aero-engines, and upgrade, maintain, repair & overhaul them. As the MoD focuses on rebuilding squadron strength, HAL's monopoly, policy tailwinds & long tail (a few programs now in mass production) augur well for its growth prospects. On the huge, Rs1.89trn, order book (assurance of orders of at least Rs2.9trn), we expect it to clock 19.0% CAGR over FY25-28 (55 aircraft/helicopter deliveries in FY28). Against global peers, it has one of highest OB/last twelve month (LTM) sales ratio at 6.1x, one of the highest EBITDA margins, strong earnings growth outlook, a clean balance sheet, strong CFO generating potential (Rs487.1bn in FY26-28, with a 108% CFO/EBITDA ratio) and healthy RoEs (>24%). We initiate coverage with a Buy and a Rs5,950 TP (implying 32.4x the average of FY27e & FY28e EPS).

Key data	HNAL IN / HIAE.BO
52-week high / low	Rs5166 / 3046
Sensex / Nifty	80891 / 24681
Market cap	Rs3045bn
Shares outstanding	669m

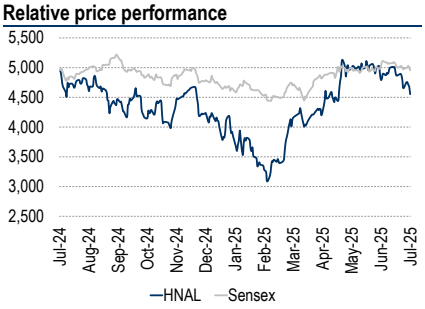
Shareholding pattern (%)	Jun'25	Mar'25	Dec'24
Promoters	71.6	71.6	71.6
- of which, Pledged	*0.0*	*0.0*	*0.0*
Free Float	28.4	28.4	28.4
- Foreign institutions	12.0	12.1	12.3
- Domestic institutions	8.7	8.3	8.1
- Public	7.7	8.0	8.0

Strong growth outlook. Post Operation Sindoor, the IAF is focusing on quickly re-building its squadron strength. Given HAL's long history, its involvement in designing and developing all coming indigenous platforms, coupled with policy tailwinds, augur well for its growth prospects. Its Q4 FY25 order book was Rs1.89trn. With traction in LCA Mk-1As, HTT-40s, Su-30MKI, LCH and Russian engine programs, we expect it to clock 19.0% revenue CAGR over FY25–28. Given the LCHs, LUHs (ready for mass production) required, and Su-30 MKI upgrades, even medium-term growth prospects are promising. With fixed costs in check and no major provisions anticipated, we expect a 17.3% PAT CAGR over FY25-28.

Valuation. At the CMP, the stock quotes at 27.1x FY27e EPS (16% discount to mean + 2σ levels). HAL is entering a double-digit revenue-growth trajectory, led by strong traction in its manufacturing business, to last till at least FY32. Given the huge OB, strong awarding pipeline, clean balance sheet, healthy RoEs and its monopoly, we expect it to be further re-rated. Accordingly, we assign a 32.4x P/E (implying mean + 2σ) to our average of our FY27e and FY28e EPS of Rs183.7/share, to arrive at a TP of Rs5,950. Given the 32% potential, we initiate coverage with a Buy rating.

Risks: Import of platforms, delays in RM procurement affecting the program

Relative price performance



Source: Bloomberg

Key financials (YE Mar)	FY24	FY25	FY26e	FY27e	FY28e
Sales (Rs m)	303,808	309,809	380,500	438,090	521,900
Net profit (Rs m)	75,951	83,167	95,425	111,434	134,240
Adj. EPS (Rs)	114	124	143	167	201
P/E (x)	43.8	40.0	31.9	27.1	22.5
EV / EBITDA (x)	31.3	30.5	20.8	16.7	13.1
P / BV (x)	11.5	9.5	7.3	6.1	5.1
RoE (%)	28.9	26.0	24.9	24.4	24.6
RoCE (%)	38.9	33.9	33.3	32.6	32.8
Dividend yield (%)	1.2	0.8	0.9	1.0	1.2
Net debt / Equity (x)	-1.0	-1.1	-0.9	-1.1	-1.2

Source: HAL

Santosh Yellapu
Research Analyst

Quick Glance – Financials and Valuations

Fig 1 – Income statement (Rs m)

Year-end: Mar	FY24	FY25	FY26e	FY27e	FY28e
Order inflow	399,261	1,252,810	460,000	1,100,000	1,200,000
Order backlog	941,290	1,893,000	1,968,431	2,630,431	3,310,511
Net revenues	303,808	309,809	380,500	438,090	521,900
Growth (%)	*12.8*	*2.0*	*22.8*	*15.1*	*19.1*
Raw material expenses	110,760	123,125	154,103	181,807	221,286
Other operating expenses	95,510	90,468	98,330	107,475	124,426
EBITDA	**97,539**	**96,216**	**128,067**	**148,808**	**176,189**
EBITDA margins (%)	***32.1***	***31.1***	***33.7***	***34.0***	***33.8***
Depreciation	14,214	13,644	17,556	19,752	21,999
Other income	18,985	25,655	17,029	19,881	25,235
Interest expenses	320	86	103	120	150
PBT	101,990	108,200	127,438	148,817	179,274
Effective tax rates (%)	*25.5*	*23.1*	*25.1*	*25.1*	*25.1*
+ Associates / (Minorities)	0	0	0	0	0
Net income	75,951	83,167	95,425	111,434	134,240
Adjusted income	**75,951**	**83,109**	**95,425**	**111,434**	**134,240**
Adj. WANS	669	669	669	669	669
Adj. FDEPS (Rs)	**114**	**124**	**143**	**167**	**201**

Fig 2 – Balance sheet (Rs m)

Year-end: Mar	FY24	FY25	FY26e	FY27e	FY28e
Share capital	3,344	3,344	3,344	3,344	3,344
Net worth	290,464	348,429	417,103	497,773	595,231
Debt	0	0	0	0	0
Minority interest	0	0	0	0	0
DTL / (Assets)	(14,543)	(15,680)	(15,680)	(15,680)	(15,680)
Capital employed	**275,921**	**332,749**	**401,423**	**482,093**	**579,551**
Net tangible assets	57,734	59,629	61,058	63,459	64,916
Net intangible assets	25,132	27,071	31,875	38,387	46,098
CWIP (tang. & intang.)	9,358	10,912	11,200	12,500	13,800
Investments (strategic)	1,204	1,282	1,300	1,400	1,400
Investments (financial)	13,767	14,991	15,500	16,200	18,500
Long-term liabilities	(126,141)	(271,742)	(276,066)	(363,548)	(438,286)
Long-term assets	27,942	30,743	34,454	36,989	36,989
Current assets (ex. cash)	365,939	519,116	632,461	757,247	898,680
Cash	264,218	381,708	369,648	519,869	645,962
Current liabilities	363,232	440,960	480,006	600,410	708,507
Net working capital	2,707	78,156	1,52,455	1,56,837	1,90,173
Capital deployed	**275,921**	**332,749**	**401,423**	**482,093**	**579,551**

Fig 3 – Cash-flow statement (Rs m)

Year-end: Mar	FY24	FY25	FY26e	FY27e	FY28e
PBT	101,990	108,200	1,27,438	1,48,817	1,79,274
+ Non-cash items	31,181	15,967	26,579	27,051	27,785
Oper. prof. before WC	133,171	124,167	154,017	175,868	207,059
- Incr. / (decr.) in WC	(31,220)	47,665	(82,125)	73,070	73,678
Others incl. taxes	(19,693)	(35,382)	(32,012)	(37,383)	(45,034)
Operating cash-flow	**82,258**	**136,451**	**39,880**	**211,555**	**235,703**
- Capex (tang. + intang.)	(17,469)	(17,532)	(24,584)	(29,696)	(32,196)
Free cash-flow	64,788	118,919	15,296	181,859	203,507
Acquisitions	0	0	0	0	0
- Div. (incl. buyback & tax)	(19,729)	(25,414)	(26,751)	(30,764)	(36,783)
+ Equity raised	0	0	0	0	0
+ Debt raised	0	0	0	0	0
- Fin investments	(105)	(129)	0	0	0
- Misc. (CFI + CFF)	(46,802)	(90,448)	43,412	(157,875)	(128,372)
Net cash-flow	(1,848)	2,928	31,957	(6,780)	38,352

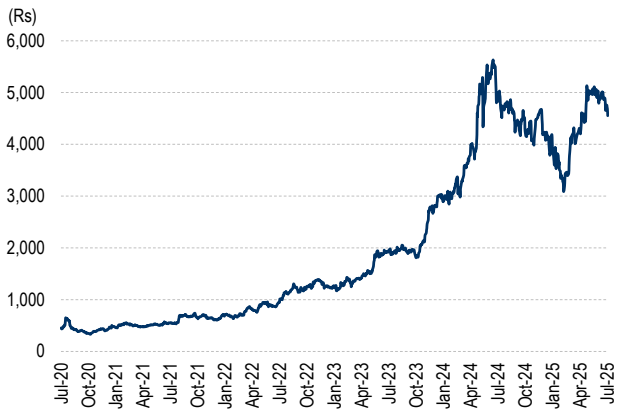
Source: HAL

Fig 4 – Ratio analysis

Year-end: Mar	FY24	FY25	FY26e	FY27e	FY28e
P/E (x)	43.8	40.0	31.9	27.1	22.5
EV / EBITDA (x)	31.3	30.5	20.8	16.7	13.1
EV / Sales (x)	10.0	9.5	7.0	5.7	4.4
P/B (x)	11.5	9.5	7.3	6.1	5.1
RoE (%)	28.9	26.0	24.9	24.4	24.6
RoCE (%) - after tax	38.9	33.9	33.3	32.6	32.8
Gross margins	63.5	60.3	59.5	58.5	57.6
DPS (Rs)	59.0	37.8	40.0	46.0	55.0
Dividend yield (%)	1.2	0.8	0.9	1.0	1.2
Dividend payout (%) - incl. DDT	26.0	30.4	28.0	27.6	27.4
Net debt / equity (x)	-0.9	-1.1	-0.9	-1.1	-1.2
Receivables (days)	55	55	60	70	70
Inventory (days)	159	255	250	260	266
Payables (days)	41	60	58	55	55
CFO : PAT %	108.3	164.1	41.8	189.8	147.1

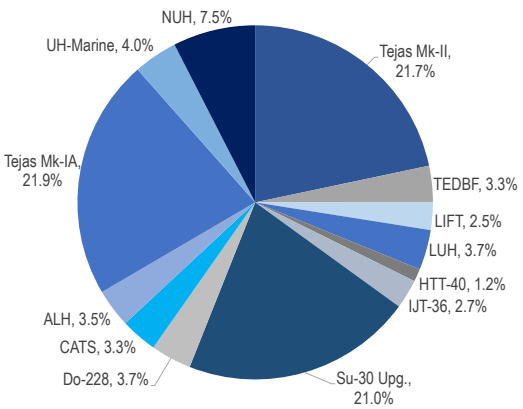
Source: HAL

Fig 5 – Stock-price movement



Source: Bloomberg

Fig 6 – >Rs2.9trn manufacturing opportunity over FY26-32



Source: HAL, Media articles

The IAF closing the squadron deficit

With two hostile neighbours (Pakistan to the west, China to the north), and given the geo-political environment, experts say India needs 58 squadrons in a possible two-front war. The last directive from the Indian Ministry of Defence authorized 42.5 fighter squadrons. Consider the following: 1) in the past decade India had >475 aircraft accidents (involving MiGs, Jaguars, Mirage-2000s and Su-30 MKIs); 2) No combat aircraft have been inducted in the last ten years (except for 36 Rafales, 40 LCA Tejas Mk-1s), and 3) Eight squadrons (of MiG-23s, MiG-27s, MiG-29s and Jaguars) will be disbanded in the next few years. Hence, any delay in inducting LCA Mk-1As would bring down the Air Force's combat squadron strength to <30, indicating urgency to induct more combat aircraft.

Fig 7 – Su-30s are the backbone of the IAF fleet

Platform	Fleet	Squadron
Sukhoi-30 MKI	261	11
Rafale	36	2
Mirage 2000I/ TI	49	3
Jaguar IS/ IB/ IM	122	6
LCA Tejas	40	2
MiG Bison & UPG	172	8
Total	**670**	**32**

Source: MoD, PIB, Media articles

Fig 8 – Most of the IAF fleet due for upgrade

Platform	Fleet
Mil Mi-17	223
Mil Mi-24/35	15
Apache AH-64	22
CH-47 Chinook	15
Chetak	77
Cheetah	17
Advanced Light Helicopter (ALH)	110
Total	**479**

Source: MoD, PIB, Media articles

It is estimated that the IAF has (of a fleet strength of ~479 helicopters) fewer than 400 operational, almost half the required ~800. Notably, half of the operational ones are ageing Mil Mi-17s, needed to be replaced. Regular repairs and overhauls have helped Chetak and Cheetah helicopters operate beyond their technical lifespans.

On non-manned systems, the IAF in the last two decades has inducted the indigenously-made Lakshya, imported the Heron and Searcher-II to gather intelligence (incl. reconnaissance and surveillance), and the Harop (for precision strikes). These UAVs are used to assist fighter and helicopter strikes, send real-time inputs to aircraft on strike missions and designate targets (as seen in the Armenia-Azerbaijan, Russo-Ukraine, India-Pakistan conflicts).

The MoD has taken cognisance of this emerging trend and is supporting the IAF in meeting these requirements. Given the acute demand-supply mis-match across airborne platforms, we see a vast opportunity for the procurement of combat aircraft, helicopters and UAVs by the Indian armed forces.

'Make-in-India' push

To reduce import dependence and restrict forex outgo, the government introduced policies encouraging indigenisation. The MoD released four negative import lists (covering 411 items, incl. aircraft and helicopters) indicating the enormous opportunity for domestic manufacturers. Its commentary suggests that imports will be avoided unless the technology gap is significant. The Ministry has identified six platforms reserved for domestic production.

Fig 9 – Six platforms slated for local acquisition only

	From	Comments
Light combat aircraft (LCA) Mk-1A	Dec'20	HAL executing the order
Light combat helicopters (LCH)	Dec'20	HAL executing the order
Transport aircraft (light)	Dec'20	Airbus + TASL executing the order
Basic trainer aircraft (HTT-40)	Dec'23	HAL executing the order
Helicopters with all-up weight (AUW) *	Dec'21	To be executed through SPV route
Naval utility helicopters (NUH)	Dec'22	HAL working on blade folding part

Source: MoD, Media articles *Note: * Possibly refers to the IMRH programme*

Of these six platforms, we are confident that HAL, with no competition in sight, will work on four of them—LCA Mk-1A, LCH, HTT-40 and NUH.

HAL to benefit from the vast opportunity

Only one company in India has a long track record of manufacturing the required military aircraft and helicopters. In the past eight decades, HAL has designed, manufactured and upgraded many Russian and Western platforms. This ensures that no other domestic manufacturer can come close to achieving this level of know-how in aircraft manufacturing, assembly and overhauling. Further, along with the Aeronautical Development Agency, HAL has in the past two decades designed and developed indigenous light combat aircraft (LCA-Tejas) and is developing variants. Despite many design changes (as asked for by the end-user) and budgetary constraints, it developed India's own LCA.

The company is levering its domestic monopoly with its internal 1,500-member design team, and ADA's design team to lead development toward manufacturing nine aircraft and helicopters. Of these, four are LCA Mk-II, TEDBF, LIFT, AMCA, two are aircraft trainers (HLFT-42, IJT-36), three are helicopters (Marine ALH, Naval NUH, IMRH), at varying stages of development. Over FY26-32, we see a >Rs2.9trn manufacturing opportunity (excl. the AMCA, IMRH programs), where the company has a lead role in execution.

Soaring on the strength of its abilities

In the first 3-4 of its more than eight decades, HAL gained from licensed production of Russian and Western aircraft to emerge as the only systems-integrator for aircraft platforms in India. It worked on new technologies with the DRDO labs to roll out indigenously designed and developed LCA Tejas. Besides, it upgrades aircraft platforms, with DRDO sharing some of the required new technologies. Long association with the DRDO labs, the armed forces and sustained R&D and infrastructure investment give it at least a 10-year head start over recent entrants to India's aerospace manufacturing.

The company started with assembling Harlow PC-5s and Curtiss Hawk-75A trainers under license from the British Royal Air Force, in 1942. In 1958 it took up full-scale licensed production of Folland Gnat fighters. Also, in the '50s and '60s, it indigenously designed and developed HT-2 trainers, HF-24 fighters (Marut) and HJT-16 basic jet trainers (Kiran), which were inducted into the Indian Armed Forces. It changed course in the '60s when it signed a technology-transfer agreement and started licensed production of the Russian MiG series, followed by Chetak and Cheetah helicopters. This shift in strategy helped it broaden its footprint within the available low-hanging manufacturing side. Till now, it has manufactured 31 types of aircraft and helicopters.

Fig 10 – Details of key HAL-made platforms

Platform	Origin Country	Platform Name	Licensed from	Volume	Executed during
1	Russia	Su-30 MKI	Rosoboron export (on behalf of Komsomolsk-on-Amur-aircraft)	222	2005-2021
2	Russia	MiG series	Mikoyan-Gurevich Design Bureau	810	1966-1999
3	UK	Hawk Trainers	BAE Systems	99	2008-2018
4	Germany	Dornier Do-228	Dornier GmBH	135+	1985-present
5	France	Jaguars	SEPECAT (Breguet/ BAC)	120	1993-2010
6	France	Chetak (Aloutte III/ SA 316)	Sud-Aviation (now M/S Airbus)	350+	1962-2019
7	France	Cheetal (Aloutte III/ 315B Lama)	SNIAS (now Airbus)	275+	1976-2011
8	France	Lancer	SNIAS (now Airbus)	12	2001-2004
9	France	Cheetal (Aloutte III/ 315B Lama)	SNIAS (now Airbus)	33	2009-2022

Source: HAL, Media articles

Since the '90s, it focused on indigenous design and development of LCAs, ALHs, LCHs and LUHs. It has now produced 17 types of aircraft and helicopters indigenously, and manufactured >4,250 aircraft (of Russian and Western origin) and 5,330 engines.

Tapping seamlessly into the DRDO's eco-system

The company taps into new technologies and new sub-systems as DRDO labs (ADA, CABS, GTRE, DARE, LRDE, ADE, RCI, DEAL, CVRDE, CSIR-NAL, DMRL, DEBEL, DRDL) develop them. It is easier for it to integrate new technologies/upgrades developed by the DRDO labs with the platforms, as they are mostly aligned with end-user requirements.

Fig 11 – HAL taps technology developed by various DRDO labs

DRDO Lab	Location	Key Programs	Role
ADA	Bengaluru	LCA, AMCA, TEDBF	Design partner; HAL leads production, system integration
CABS	Bengaluru	AEW&C, AEW&C Mk-II	Platform modification, integration of mission systems
GTRE	Bengaluru	Kaveri Engine	Component manufacturing, assembly support at HAL Koraput
DARE	Bengaluru	EW Systems, Mission Computers	Integration for Su-30MKI, Jaguar, LCA
LRDE	Bengaluru	Uttam AESA Radar, FCR	Radar integration with LCA, AMCA
ADE	Bengaluru	TAPAS-BH, Rustom UAVs	Airframe fabrication, prototype support
ARDC	Pune	Combat Air Teaming System (CATS) Warrior	Design, develop
RCI	Hyderabad	Missiles (Astra, Brahmos)	Missile integration with Su-30MKI, Helicopters
DEAL	Dehradun	IFF, Secure Coms	Integrated on LCA, AEW&C, Helicopters
CVRDE	Avadi	Mobility, Diesel Engines	Power Transmission, Gearbox Technologies, high-torque mechanical system
DRDL	Hyderabad	Missiles (Nag, Akash)	Platform-level missile integration

Source: MoD, DRDO, Media articles

The Aeronautical Development Agency (ADA) is a DRDO lab established in 1984 to design and develop indigenous combat aircraft, and associated technologies for the Indian Armed Forces with the immediate goal of developing light combat aircraft. ADA is now identified as the nodal design agency for some coming aircraft platforms such as for the Tejas Mk-2 (a medium-weight fighter), an AMCA (a fifth-generation stealth fighter) and the TEDBF (a twin-engine deck-based fighter for the Indian Navy).

Fig 12 – ADA's role explained

Sl. No.	Category	Scope of Work
1	Combat Aircraft Design & Development	Lead the conceptualisation, configuration, and detailed design of indigenous combat aircraft
2	Program Management	Serves as the nodal agency for large national aircraft development programs involving various partners
3	Flight Control System Development	Design and integration of fly-by-wire flight control systems (FBW-FCS) for aircraft.
4	System Integration	Ensure integration of latest avionics, sensors, weapons, engines, EW systems
5	Use of Advanced Materials	Develop and integrate composite materials and structures for reduced weight and radar cross-section.
6	Flight Testing & Evaluation	Manage the National Flight Test Centre (NFTC) to conduct test flights and evaluate performance and safety.
7	Collaborate with HAL & DRDO Labs	Coordinate with HAL (for production), GTRE (for engines), DARE (for EW), CABS (for mission systems), LRDE (for radars), etc.
8	Infrastructure Development	Build indigenous design tools, simulation systems, digital mock-ups, wind tunnels, and virtual test rigs.
9	Certification & Compliance	Work with CEMILAC, DGAQA and other agencies to ensure safety, airworthiness, and regulatory certification.

Source: DRDO, Media articles

Fig 13 – ADA's role in coming large platforms

Program	ADA's Role
Tejas Mk2 (MWF)	(1) Roll out new design with higher payload (~6.5tn) and range, (2) design fuselage around GE-F414 Engine, (3) develop updated Mission Computer and Cockpit, (4) airframe redesign for better radar cross-section (RCS) and stealth features
LCA Navy	(1) Modify Tejas design for Carrier-ops (STOBAR), (2) design strengthened Undercarriage, Tail hook, foldable wings, (3) develop control laws for ski-jump take-off and arrested landing, (4) flight testing from aircraft carriers
AMCA	(1) Develop stealth shaping, internal weapons bay, diverterless air intakes, (2) design reduced radar cross-section, IR signature suppression, (3) develop AI-assisted cockpit and sensor fusion, (4) manage the overall program, co-ordinate with DRDO labs, HAL, and private sector partners, (5) prototype 5 test Aircraft (AMCA Mk-1), with HAL leading series production via a Special Purpose Vehicle (SPV)
TEDBF	(1) Design from scratch, incorporate learnings from LCA Navy, (2) optimise for STOBAR/ carrier-operations with stealth shaping, canards, naval-grade landing gear

Source: DRDO, Media articles

Fig 14 – Details of some technologies shared/ to be shared by DRDO labs with HAL

DRDO Lab	Year	Technology transferred	Programme / HAL application
LRDE	2021	Uttam AESA radar	Tejas Mk-1A integration
CSIR-NAL	2023-24	Composite/ BMI Engine Bay Door	Tejas Mk 1A production
DMRL	2021	High-pressure Turbine Compressor Disc/ Blade manufacturing	Adour-class engine components (Jaguar/ Hawk)
DEBEL	2024	On-Board Oxygen Generating System (OBOGS-ILSS)	Tejas (optional for MiG-29K) life-support integration
ADE	1990's	PTAE-7 Jet Engine	Lakshya drone manufacturing
LRDE	Coming	High resolution X-band SAR radar	Dornier Do-228 Surveillance retro-fit
RCI/ DRDL/ TERLS	Coming	AKU-58 launcher design	Su-30MKI, Tejas Mk-1A

Source: DRDO, Media articles

Another example that explains the critical dependence on the DRDO labs is deployment of the LRDE-developed UTTAM AESA radar. Trials indicate that this radar is more effective than Israeli radar, and is fitted in the first batch of the 83 LCA Tejas Mk-1A order. BEL (and possibly Astra Microwave) are strong contenders to bag mass production orders for the second batch, which will be supplied to HAL for integration into the LCA Tejas.

In the last two decades the company has invested in enhancing abilities, incl. scaling up design and development abilities, physical infrastructure and R&D.

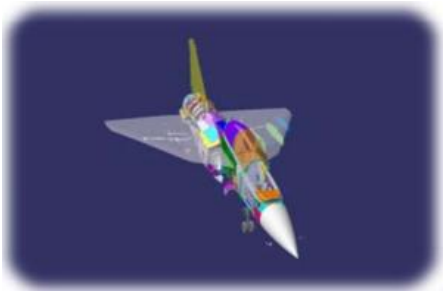
Fig 15 – Contribution of D&D teams to the platforms

Division	Focus area	Platforms
Aircraft R&D Centre	Fixed-wing aircraft	HTT-40, HLFT-42 (early stages)
Helicopter Design Bureau	Rotary-wing aircraft	LCH, LUH, ALH Dhruv
Engine Division (AERDC)	Air starters, gearboxes, electrical generators, engine control units	HTFE, HTSE- 1200
MCSRDC	Software defined avionic architecture, mission computers, flight control computers, navigation & targeting systems, radars	
Lucknow Division	Systems accessories, electricals	
Nasik Division	Weapon integration, Su-30 upgrades	Su-30 MKI, smart bombs, air-to-air and air-to-ground missiles

Source: HAL, Media articles

Fig 16 – HAL's investments in creating in-house infrastructure, Part-I

(A) 3-D modelling



(B) Airframe ground test

(C) Wind tunnel (low speed)

(D) Environmental test facilities

(E) Flight test facilities

Source: HAL *Note: Some of the images are for representational purpose only;*

Over FY11-15, the company hired ~1,100 employees to strengthen the design and development team. Most were deployed at the Aircraft R&D Centre, Mission & Combat Systems R&D centre and Helicopter Design Bureau (all in Bengaluru) anticipating large orders, which did not then materialise. In recent years, it played a key role in designing and developing the LCA Tejas, LUH and LCH programs.

In the last 2-3 decades the company has invested heavily in creating in-house physical infrastructure, incl. setting up a 3-D modelling facility, an airframe ground test centre, wind tunnel test, environmental test and flight test facilities, among others.

Fig 17 – HAL's investments in creating in-house infrastructure, Part-II

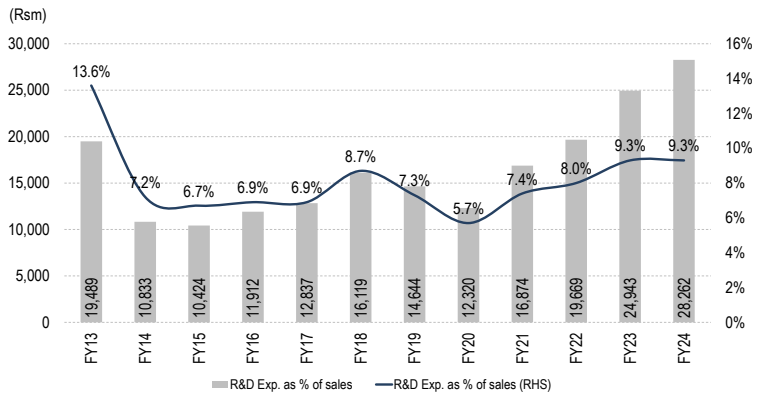
Facility	Category	Purpose
HAL Flight Test Centre (FTC)	Flight testing facilities	Flight testing of Tejas, HTT-40, Jaguar DARIN upgrades, LCH, ALH
Dedicated Runways & ATC	Flight testing facilities	Air testing and production delivery
National Flight Test Centre (NFTC) *	Flight testing facilities	LCA Tejas and AMCA flight testing
Full-Scale Fatigue Test Rig (FSFT)	Structural & Fatique testing facilities	Tejas Mk1/1A airframe fatigue testing (up to 8,000 flight cycles)
Static Test Rigs	Structural & Fatique testing facilities	Airframe & wing static load testing for HTT-40, ALH, LCH
Vibration & Modal Testing Labs	Structural & Fatique testing facilities	Structural dynamics of aircraft & engine parts
Temperature & Altitude Simulation	Environmental Test Facilities (ETF)	Testing avionics, electronics under extreme conditions
Salt Spray Chambers	Environmental Test Facilities (ETF)	Corrosion testing of metallic components
EMI/EMC Test Labs	Environmental Test Facilities (ETF)	Electromagnetic compatibility of Avionics suites (for military certification)
Climatic Chambers	Environmental Test Facilities (ETF)	Integrated testing for heat, humidity, and icing conditions
Test Cells for AL-31FP, RD-33	Engine Test Facilities	Su-30MKI and MiG-29 engine ground testing under load
Test Cell for Adour Engine	Engine Test Facilities	Jaguar & Hawk engine overhauls
Noise-Suppressed Test Bed (NSTB)	Engine Test Facilities	Modern facility with thrust measurement, telemetry, acoustic shielding
Support for GTRE's Kaveri testing	Engine Test Facilities	Structural & subsystem testing for indigenous engines
Iron Bird Test Rigs	Avionics & Systems Integration Test Rigs	Tejas, HTT-40, LCH flight control system testing
Mission System Integration Lab (MSIL)	Avionics & Systems Integration Test Rigs	Avionics, data buses, radar, EW systems
Weapon Integration Labs	Avionics & Systems Integration Test Rigs	Smart pylons, release mechanisms, missile interface validation
Full-Mission Simulators	Avionics & Systems Integration Test Rigs	For pilot training, system verification (Tejas, Hawk, ALH)

Source: DRDO, Media articles *Note: * ADA run, HAL supported;*

Levering the strength of innovation

Barring FY20 over FY14-FY24 it spent 6-9.3% of its yearly revenue on R&D.

Fig 18 – R&D spend as % of revenues, at 6-9.3%



Source: HAL, Anand Rathi Research

Most of the R&D spend has been toward developing new technologies and new platforms, and upgrading existing ones.

Fig 19 – R&D bearing fruit, with some successful results in recent years

Sl. No.	Year	R&D initiative	Integrated with
1	2023	Design, develop Mission Management Systems (MMS)	Dornier Do-228
2	2023	Design, develop for Solid State Flight Data Recorder (SSFDR)/ Cockpit Voice Recorder (CVR)	Cheetah, Chetak & Cheetal Helicopter
3	2022	Design, develop 'Air Data Computer ADC 3600A CVL1 (ADC-ITSOA)' which is 'environmentally qualified' with in-house developed application software certified.	Civil platform of Aircraft & Helicopters
4	2022	Integrated SPICE 2000 weapon with Mission Computer MC-2 (designed, developed through MIL 1553 Bus).	Mirage-2000
5	2022	Design, develop Solid State Weapon Control System for management of weapons (replace ageing Armament Main unit).	Jaguar Aircraft
6	2022	Design, develop Solid State Cockpit Voice & Flight Data Recorder and Control Unit.	Dornier Do-228
7	2021	Design, develop 60kW Gas Turbine Electrical Generator, the Auxiliary Power Unit and its Control unit.	AN-32 Military Transport
8	2021	Successfully developed, manufactured through 3D printing technology (collaborated with Wipro) the Inner Ring.	Aero Engine

Source: HAL

Only HAL builds, upgrades & arms entire aircraft

All these initiatives have augured well for HAL to emerge as a full-fledged aerospace company. It is the only company in India to build, upgrade, and arm an aircraft or helicopter per the Armed Forces requirement.

Fig 20 – A holistic skillset from HAL

Source: HAL

Its order book and pipeline reflect the capabilities that it has built-upon. This includes manufacturing platforms, design & development of various aircraft platforms, mid-life upgrading of aircraft and helicopters, maintaining, repairing and overhauling (MRO), manufacturing aerospace parts and missile integration with the platforms.

The tables below highlight HAL's accomplishment across these six areas.

Fig 21 – Some large manufacturing orders, part of HAL's order book

Platform	Notes	Role
Tejas Mk-1A	Executing the 83 aircraft order by IAF at Bengaluru	Light Combat Aircraft
HTT-40	Production underway of the 70 Trainers ordered by the IAF	Basic Trainer Aircraft
Do-228 NG	Undergoing upgrade/ new orders	Light Transport Aircraft
Sukhoi Su-30 MKI	Deliveries of 12 Su-30 MKIs yet to start	Multirole Fighter
LCH (Light Combat Helicopter)	15 LSPs delivered; won order for 156 LCHs	Light Combat Helicopters
LUH (Light Utility Helicopter)	12 LSPs completed; expecting order for 187 LUHs	Recon / utility
AL-31FP	Production of 240 engines underway	Su-30MKIs
RD-33 Series 3	Undergoing the 120 engines order	MiG-29s

Source: MoD, DRDO, Media articles

Fig 22 – Wide experience of designing & developing platforms

Completed	Coming
HTT-40 Aircraft	Tail boom folding & 2-segmented blade folding on ALH
Light Utility Helicopters (LUH)	AMCA
Mid-Life upgraded (MLU) Dornier aircraft fitted with Pollution Surveillance Systems (PSS)	IMRH
Deck-based operations capability, integration of Medical Intensive Care Units (MICU) on ALH Mk-IIIs	LUH-Civil
6-spin trials on IJTs	CATS Warrior
Integration of lithium-ion main battery on HTT-40s	LCA Mk-II
	Avro Upgrade

Source: HAL, Media articles

Fig 23 – HAL has worked on at least half a dozen missile-integration programs

Missile	Platform	HAL role also includes
Brahmos	Su-30MKI	Structural mods, pylon design, fire control interface
Rudram-1	Su-30MKI	Launcher integration, software validation
Astra Mk-1/2	Su-30MKI, Tejas	Launcher, avionics, and electrical integration
Python-5	Tejas Mk-1	Launcher mods, target designation interface
SANT	ALH 'Rudra', LCH	Software integration, trials support
SAAW	Jaguar, Tejas	Fire control system link, bus integration

Source: HAL, MoD, PIB, Media articles

The aerospace division commenced operations in Apr'91. Over the years, it has built capabilities to fabricate structures, propellant tanks (of different types, sizes, material and complexity) for SLVs, ASLVs, and PSLV launch vehicles. In Sep'22, along with L&T it won a contract to make PSL rockets. It recently bagged a contract for a full-technology transfer to manufacture SSLVs.

Fig 24 – HAL has worked on, aircraft and engine MRO

Category	Platforms / Engines serviced	Location
Fighter MRO	Su-30, Jaguar, Mirage, MiG upgrades	Nashik, Bengaluru
Helicopter MRO	ALH, LCH, LUH, Chetak/ Cheetah	Bengaluru, Tumkuru
Engine MRO	AL-31FP, Adour, TM333, R-29, IMRH JV (Safran)	Koraput, Lucknow, Chennai
Avionics MRO	Cockpit, Radars, EW, software, mission systems	Hyderabad, Bengaluru, Lucknow
Civil MRO	A320neo, Embraer jets (E-175 and E-145), Dornier-228, Dhruv exports	Kanpur, Nashik, Bengaluru

Source: HAL

Fig 25 – HAL has consistently delivered mid-life upgrades across various platforms

Platform	Upgrade Program	Timelines	Key Upgrades
Jaguar	DARIN I > II > III	Completed	New mission computer, autopilot, GPS/ INS, multifunction displays, EW suite, Litening pod
MiG-21 Bison	Life-extension + Avionics Upgrade	Completed	HUD, Radar, R-73 integration, limited MLU
Mirage 2000	Mirage 2000-5 Mk2-level	Completed	RDY-2 Radar, MICA integration, glass cockpit, EW system
Cheetah / Chetak	Glass cockpit upgrade + avionics	Completed	Modern displays, radios, engine monitoring
HS-748 Avro	Limited upgrades (Navigation)	Ongoing	INS/GPS, modern comm's
Do-228	Do-228 NG	Ongoing	Glass cockpit, new props, avionics
Kiran Mk-II	Life extension & cockpit upgrade	Ongoing	Trainer displays, partial overhaul
Hawk-I	Network-centric upgrades to Hawk AJT	Ongoing	Indigenous mission computer, data link, weapons integration
Rudra (ALH Mk-4)	Weapon system upgrades	Ongoing	Integration of HELINA, anti-drone options
ALH Mk-1/ Mk-2 to Mk-3	Avionics + Surveillance Suite	Ongoing	AESA radar, EO/IR, secure comm's
MiG-29	MiG-29 UPG	Ongoing	Zhuk-ME Radar, new mission computer, RD-33 Series 3 engine, IFR probe
Mi-17	Partial Upgrades	Ongoing	NVG capability, secure comm's
Tejas Mk-1	Mk1A enhancement	Upcoming	Uttam Radar, self-protection jammer, new EW suite, more efficient maintenance architecture
Su-30 MKI	Super Sukhoi	Upcoming	AESA Radar (Uttam), EW suite, new mission computer, cockpit upgrades, Astra/ Brahmos-NG integration

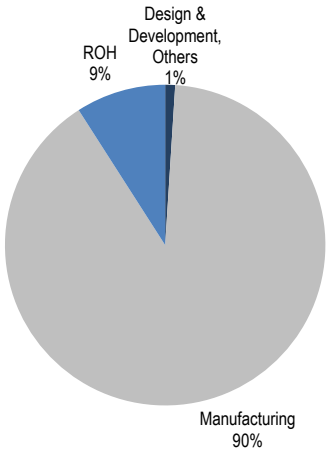
Source: HAL, DRDO, Media articles *Note: * Ongoing means it is an ongoing opportunity for HAL;*

Investment rationale

Strong near- to medium-term visibility, as OB is >Rs1.89trn

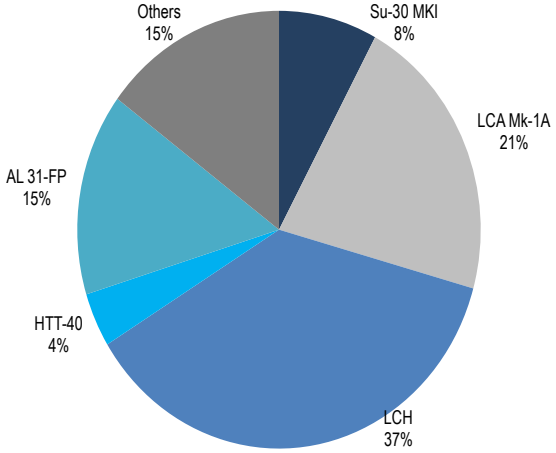
The order book jumped 3.6x over FY20-25 to Rs1,893bn, led by: 1) 83 LCA Tejas Mk-1As (Rs480bn), 2) 240 AL-31FP engines (Rs255bn), 3) 156 LCHs (Rs627bn), 4) 70 HTT-40s (Rs68bn), 5) 80 RD-33 engines (Rs52bn), 6) 34 ALH Mk-IIIs (Rs80bn) and 7) 12 Su-30 MKI aircraft (Rs134bn).

Fig 26 – 90% of the OB is manufacturing



Source: HAL

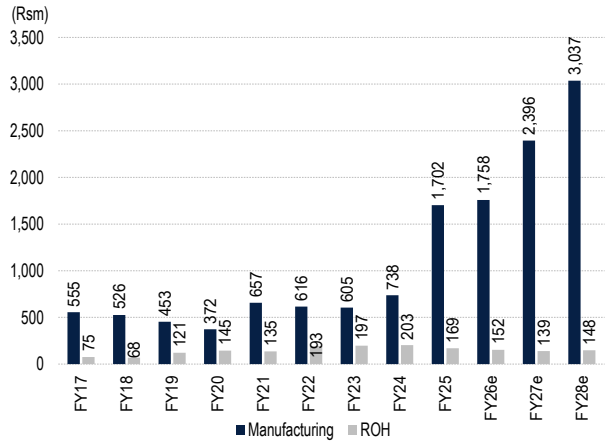
Fig 27 – 37% of manufacturing OB led by LCH program



Source: HAL

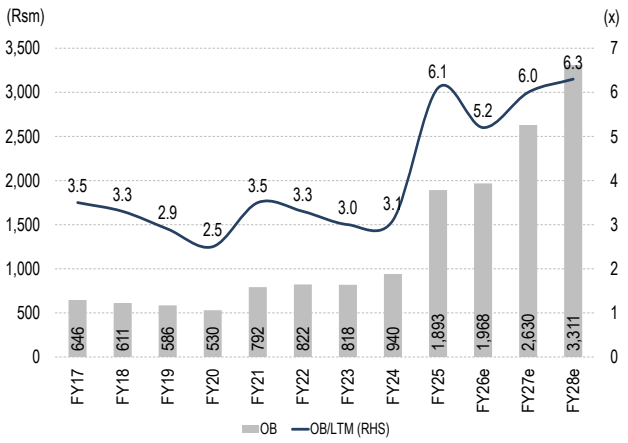
Of the Rs1,893bn order book outstanding, most (89.9%) is in manufacturing. The present OB/LTM sales ratio is its highest, of 6.1x. Notably, OB dependence on LCA Mk-1As has declined from the ~55% highs in FY21 to ~21% in FY25.

Fig 28 – Manufacturing OB set to grow



Source: HAL, Anand Rathi Research

Fig 29 – OB / LTM sales ratio at 6.1x



Source: HAL, Anand Rathi Research

The company has a pipeline of ~Rs1,790bn (manufacturing), likely to be awarded in FY26-FY28 incl., 1) 97 LCA Mk-1As (Rs658bn), 2) 84 Super Su-30MKI upgrades (Rs630bn), 3) 60 UHMs (Rs120bn), 4) 43 ALHs from the IAF & Indian Army (Rs105bn), 5) 10 Dornier Do-228s from the Indian Navy and Indian Coast Guard (Rs11bn), 6) 40 Dornier Do-228 upgrades for the IAF (Rs45bn), and 7) 187 LUH (Rs110bn).

Over Rs2.9trn manufacturing opportunity

Given its long history of making mil-grade aircraft and helicopters, with no competition in sight, we expect the company to report at least ~Rs2.9trn in direct manufacturing during FY26-32.

Fig 30 – Over Rs2.9trn of direct manufacturing opportunity over FY26-32

Platform	Volume	Value (Rs bn)
Tejas Mk-II	100	650
TEDBF (Twin Engine Deck Based Fighter)	30	100
LIFT (Lead-In Fighter Training)	30	75
Light Utility Helicopter (LUH)	187	110
HTT-40	36	35
IJT-36	103-113	80
Su-30 MKI Super Upgrade (Phase I)	84	630
Dornier Do-228	50	55
Dornier Do-228 Upgrade	50	56
CATS	100+	100
ALH	43	105
LCA Tejas Mk-IA	97	658
Utility Helicopter-Marine (UH-Marine)	60	120
Naval Utility Helicopter (NUH)	111	225

Source: HAL, Media articles *Note: excluding the Tejas Mk-IA order, all orders above exclude GSE, PBL;*

This table excludes opportunities emanating from 1) AMCA and IMRH programmes, (for which HAL would be taking the SPV route for execution) and 2) opportunities from export variants of its portfolio.

Fig 31 – Update on the status of all coming programs

Tejas Mk-II: With completion of Preliminary Design Review (PDR), Critical Design Review (CDR), designs are freezed. Expect assembly, roll-out of the first prototype in 2026, (GE-414 engine agreement finalisation is pending). Expect the first flight in 2027. Mk-II Aircraft has final operational clearance (FOC) from the start, helping HAL finish developmental trials in <4 years (first two years will validate many of the flight regimes; next 2 years will validate weapons testing) from the first flight date.	**Naval Utility Helicopter (NUH):** NUH successfully cleared trials in May 2021. NUH is currently in early development phase. HAL is expected to start the process of finalizing the design (already specialised machines have been ordered). Expect the prototype development during 2026-2027.First flight is expected in 2027-28.
Twin Engine Deck Based Fighter (TEDBF): LCA Naval has undergone lot of trials, but weight issues remained. Then a twin-engine, TEDBF program was rolled out to replace MIG-29k by 2034-35. ADA along with HAL has freezed PDR and soon will freeze the CDR in 2026. Thereafter, prototype fabrication, assembly will start, with first flight expected by 2027-28. First TEDBF is likely to be rolled out by 2029 (first 2 Aircrafts will be used for flight certification, testing of systems & sub-systems; 3rd one will be involved in deck-based carrier take-offs and landings). Rollout of first Limited series production (LSP) order is expected by 2031.	**Indian Multi Role Helicopter (IMRH):** HAL, along with private player (via the SPV route) will work on the design and development over a span of six years. Entire money for design works will be infused via equity. Business plan is submitted to MoD. Deliveries (including 6 prototypes) will start 3 years later after completion of design and development works. 200 (IAF- 125 + IA- 75) IMRH's are to be ordered worth ~Rs300-400bn (excluding PBL, GSE).
Intermediate Jet Trainer (IJT-36): HAL is working with consultancy firm and at later stages to clear the design works of IJT-36, thereby helpful in clearing the 8-spin trial test. First order for 73 IJT-36 will be executed over 6 years at Bangalore.	**Advance Medium Combat Aircraft (AMCA):** Likely to go through the SPV route, where private player may have larger role (yet to identify the partner). Got CCS approval in 2024. Total requirement from IAF is for 130 AMCA fighters costing ~Rs900bn (excluding PBL, GSE).
Su-30MKI Upgrade: IAF yet to get consent from Russia to allow modifications. HAL will integrate indigenously made systems/ sub-systems (like, Avionics, Weapons upgrade, AESA Radars, mission computers, and others).	**Marine ALH:** HAL conducted development test of 'folding tail boom' on ALH, to ensure that it fits into hangars and helidecks of frontline warships. Post that, Marine ALH was pitched as option for carrier-based operations, ASW capabilities, provided it address-folding tail, retractable rotor blades, crucial for such operations. Marine ALH is undergoing testing. Expect first order in 2027.
Hindustan Lead-In-Fighter Trainer (HLFT-42): Rafale, Su-30 MKI pilots can use it for combat purposes if required. Built on the lines of LCA Twin-seater Trainers, this program was designed to participate in US' TX program. Work on this program started after deliveries of Twin-seater Trainers to IAF. HAL is yet to freeze concept, design works.	

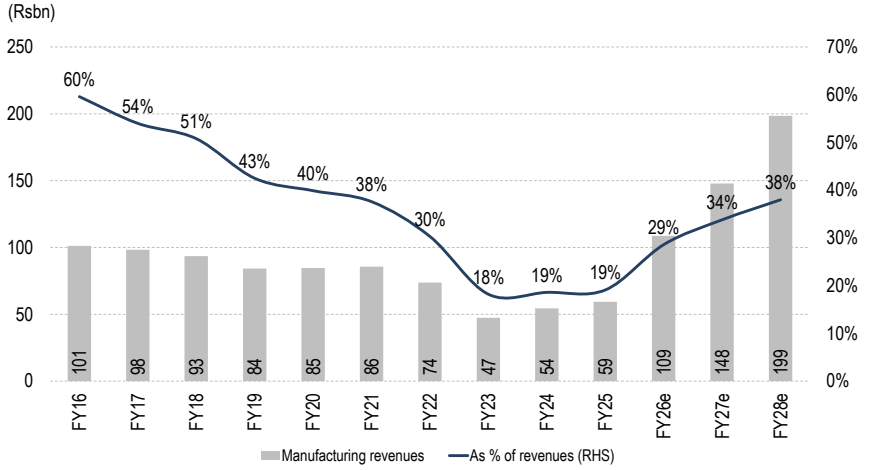
Source: Media articles

During FY31-35, we expect two large programmes (AMCA, IMRH) to see awarding of ~Rs1.2trn-1.3trn to be pursued by the SPV, where HAL and private players would partner.

Manufacturing revenue poised for strong growth

Due to delays in the LCA Tejas ramp-up and in awarding of large-platform orders, manufacturing revenue came at a negative 10.3% CAGR over FY16-23 to Rs47.4bn. Deliveries of LCA Mk-1s, twin-engine LCA trainers and traction in engine orders boosted manufacturing revenue to a 9.5% CAGR over FY23-25.

Fig 32 – Share of manufacturing to total revenue set to bounce back



Source: HAL, Anand Rathi Research

We expect the company to report a 50.8% manufacturing revenue CAGR over FY25-28 on the take-off of the HTT-40 and LCA Mk-1A programmes from FY26.

Fig 33 – Strong assurance of HALs manufacturing segment to report double-digit revenue growth over FY25-32

(Rs m)	FY23	FY24	FY25p	FY26e	FY27e	FY28e	FY29e	FY30e	FY31e	FY32e
Manufacturing revenues	47,403	54,457	59,309	108,700	147,900	198,500	214,590	259,505	285,730	322,775
change (%)	*-35.7*	*14.9*	*8.9*	*83.3*	*36.1*	*34.2*	*8.1*	*20.9*	*10.1*	*13.0*
LCA Tejas Mk-1/ 1A	8,970	14,950	8,970	15,500	37,200	62,000	62,000	1,10,060	80,560	96,080
Su-30/ Super Su-30	0	0	0	0	0	55,350	55,350	43,050	64,575	86,100
HTT-40	0	0	0	8,010	16,020	16,020	16,020	0	0	0
ALH Mk- III	1,920	13,800	10,925	10,925	26,220	19,665				
RD-33 engines		6,227	6,227	12,455	12,455	4,152				
AL 31FP engines	4,410		12,348	30,870	30,870	30,870	30,870	30,870	30,870	30,870
LUH			7,125	7,125					34,200	34,200
Dornier Do-228	2,775	2,022	1,824	2,736						
LCH	17,000	0	0	0	0	0	50,350	75,525	75,525	75,525
Programs mapped	35,075	36,999	47,419	87,621	1,22,765	1,88,057	2,14,590	2,59,505	2,85,730	3,22,775
% of programs mapped	*74.0*	*67.9*	*80.0*	*86.1*	*83.0*	*94.7*	*100.0*	*100.0*	*100.0*	*100.0*

Source: HAL, Media articles; *Note: Order values exclude GST impact; excludes opportunities of old platforms (like ALH, Dornier Do-228) beyond the current OB o/s*

After FY16, for the first time manufacturing revenue would cross Rs100bn, in FY26. Other large-platform orders (large platforms with 6-7 year delivery times take at least 2-3 years to move to production phase) like Su-30 MKIs and LCHs would start contributing to revenue from FY28-29. We expect manufacturing revenue to register a 23.8% revenue CAGR over FY23-32. On plotting, program-wise manufacturing revenue over FY25-32, in our view, is strengthened so that manufacturing revenue would see continued traction in years to come.

ROH business in top flight

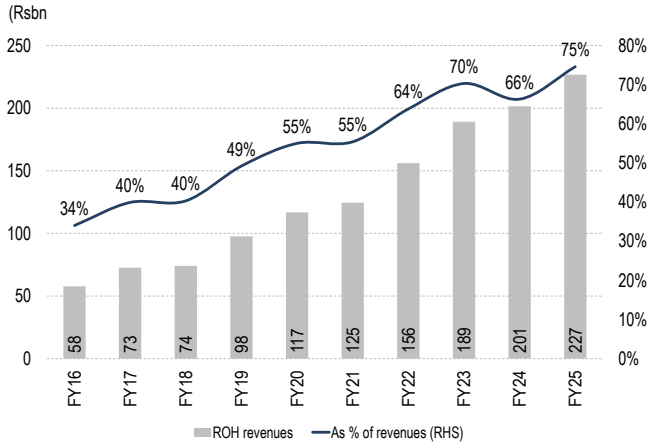
Of the IAF's 14 base repair depots (BRD), four cater to servicing/repairs & overhauling of fighter aircraft, transport aircraft and helicopters. There are instances where once an ROH program for a platform matures it is transferred to HAL.

Fig 34 – BRDs conduct ROH across platforms

Platform's Type	HAL	BRD
Fighter Aircraft	SU-30 MKI	Nashik
	Mirage 2000	Gwalior
Transport Aircraft	Kiran Mk I/II	Sulur
	Avro	Sulur
	Do-228	Sulur
Helicopters	An-32	Kanpur
	Cheetah	Gwalior
	Chetak	Gwalior

Source: Industry, Media articles

Fig 35 – 16.4% ROH revenue CAGR over FY16-25



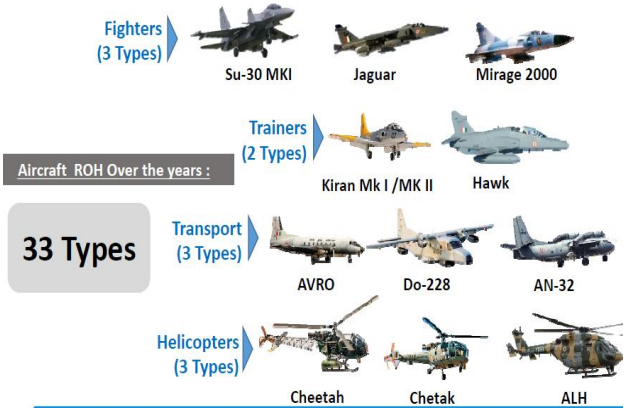
Source: HAL, Anand Rathi Research

Besides the LCA Tejas and Rafale orders, it's been over two decades since a large-platform order came from the MoD, indicating that the present aircraft fleet (Mirages, MiG series, Jaguars, Su-30s) is ageing, and needs regular maintenance and new gen upgrades.

Key programs that contributed to a 16.4% ROH revenue CAGR (FY16-25):

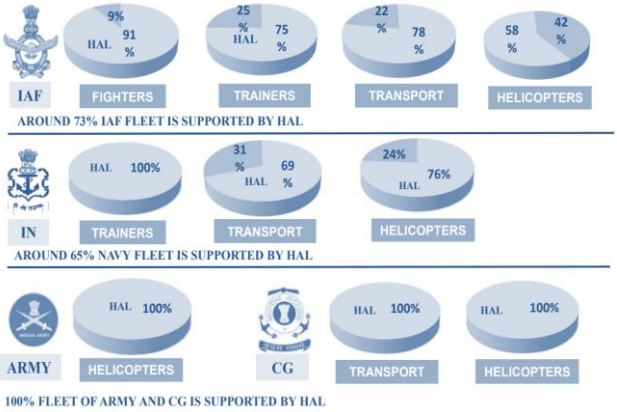
1. Ramp-up in major overhauling work of Su-30 MKIs (from 10 in FY17 to ~25 in FY25; HAL supplies spares for the entire Su-30 MKI fleet, minor ROH works of 60-70 Su-30 MKIs yearly), making it the largest ROH program. We expect Su-30 MKIs to contribute ~Rs60bn-70bn to FY25 ROH revenues;
2. ROH frequency, replacing component of the Jaguar fleet are increasing;
3. Rise in helicopter volumes (ALHs, Chetaks, Cheetahs), which bring ~Rs15bn yearly**;**
4. Traction from the Koraput engine plant (R-25s, RD-33s, AL 31-FPs);
5. Increase in Dornier Do-228 overhaul volumes (~Rs15bn revenue yearly);
6. More volumes from other engines (Adour, Shakti, RD-33, AL-31FP, TM-333 2B2) in HAL's engine portfolio (contributing ~Rs50bn revenue yearly), and
7. Spares for various other platforms (contributing Rs20bn-30bn yearly).

Fig 36 – Currently ROH for 12+ platforms



Source: HAL

Fig 37 – Armed Forces depend on HAL for ROH



Source: HAL

New programs and upgrading opportunities from existing programs (as an ageing fleet needs more ROH) will help HAL report a 8.1% ROH revenue CAGR over FY25-28. New programs that may contribute are

1. LCA Tejas will see time between overhauling starting FY26-27;
2. Upgrading the LCA Tejas FOC variant to Mk-1A;
3. ROH of Mi-17 helicopters (the company provides some accessories; HAL replied to IAF tender in 2025);
4. ROH of 60 An-32s (accessories; IAF expects 15 An-32s ROH a year);
5. Upgrading 40 MiG-29K aircraft, and
6. Traction in civil MRO (delivery of Airbus A320s after C-checks done in Mar'25; two Embraers delivered in Q1 FY26; to increase capacity from three to 20 aircraft by FY27).

The massive scope in exports

In the past HAL exported only precision aero-structure components. As a result, export revenue have been restricted to 3-4% of revenue. In recent years, though, it started supplying larger aircraft with forward passenger doors (to Airbus for its A-320s), gun-bay doors (to Boeing for its F-18s), an uplock box assembly (to Boeing for its B-777s), aircraft components (to Boeing for its B-757s & B-737s), weapons-bay doors (to Boeing for its P8Is), shoulder & centre-line pylons (to Panavia Aircraft for its tornado fighters), horizontal stabilisers (to Fokker for its Fokker-50s), G-150 rear fuselage and B-737 cargo-conversion kits to the IAI, among others. We expect it to bag regular orders outside India for such large aero-structures & components.

It has exported helicopters (Cheetahs, Chetaks, ALHs), and Dornier Do-228s to friendly countries (Mauritius, Guyana, Nepal). It is pushing for export of four aircraft/helicopters: 1) single-engine LCA TejEx (export version of LCA Tejas)/ twin-engine LCA-LIFT (working on it); 2) ALHs (already flying); 3) LCHs (will enter service in 2029) and 4) Dornier Do-228s (already flying). We see the possibility of near-term exports for the ALH and Dornier platforms.

It is pushing for the HTT-40 export variant as it enters service with the IAF. It claims an export opportunity of ~220 HTT-40 trainers in foreign markets. Also, it is planning to extend HTT-40 trainers, an extremely rugged light attack aircraft. Both basic trainer aircraft (BTA) and armed variants of HTT-40 will be promoted to countries looking to procure low-cost light attack

aircraft for close air support in precise air-to-ground attacks and target reconnaissance.

Fig 38 – MoD approved platforms for export

HAL Platform	Platform type	Export status
LCA Tejas	Light combat aircraft	Export-cleared (2023)
ALH Dhruv	Utility helicopters	Active export platform
LCH 'Prachand'	Light combat helicopters	Export-cleared (2023–24)
Dornier Do-228	Utility aircraft	Active export platform
HTT-40	Basic trainer	Awaiting export clearance

Source: MoD

Spreading its wings – diversification in progress

HAL has built its entire portfolio of aircraft and helicopters around domestic military requirements. As part of its 'diversification' strategy and to boost growth, it is focusing on **A)** work with ISRO, **B)** UAV/drone programmes, **C)** manufacturing engines, **D)** entry into civil aircraft and helicopters, and **E)** conversion of passenger to freight aircraft.

A) The ISRO angle. The aerospace division commenced operations in Apr'91. HAL started fabricating structures, propellant tanks (different types, sizes, materials, complexities) for SLVs, ASLVs and PSLVs.

With the space sector opening up to the private sector New Space India awarded to the HAL-L&T consortium a contract of Rs8.2bn for five PSLV rockets. HAL will make composite frames, structures and propellant tanks. It recently won a contract from IN-SPACe for full technology transfer of SSLVs. In a few years, ISRO will hand over technology to enable HAL to build two SSLV rockets.

B) UAVs/drones. HAL till some time back had worked only on the TAPAS and Rustom programs. With Tactical Airborne Platform for Aerial Surveillance (TAPAS) now moving toward user evaluation trials, one can expect the IAF to order 16 TAPAS from HAL.

With such vast opportunities opening up, the company has redrawn its strategy to work on minimum 200kg UAVs only. It is now working on three programs: 1) 200kg RUAVs with 40kg payloads, 2) 2,000kg RUAVs and 3) combat air-training systems (CATS). With New Space Research & Technologies it is working to convert ageing Kiran MK-IIs into CATS optically-manned combat aircraft (OMCA). Once successful, this can be extended to retiring MiG-21/MiG-27 fighters.

C) Engine manufacturing. Till now, the company has manufactured >5,330 engines and overhauled >34,500. Via the 'transfer of technology' route, it has conducted ROH for over five decades at its engines division, Bengaluru (Adour MK 871s, Garrett TPE 331-5s, Shakti, Artouste III Bs, PTAE-7s) and Koraput (Russian engines R-25s, RD-33s and AL-31FPs).

HAL and Safran have formed a JV, Helicopter Engines MRO Pvt. Ltd., to provide MRO services for Safran TM333s and HAL Shakti engines (installed on ALHs and LCHs). The facility started with capacity to repair 50 engines a year (to rise to 150 a year). The target opportunity for the MRO JVs is >750 engines (250 of TM333s, 500 of Shaktis).

The HTFE-25 engine is HAL's internally-funded program. The company has produced two engines, and an integrated full engine, and is testing them. It will take at least five years for certification. The company is also developing

the Hindustan Turbo Shaft Engine (HTSE-1200) for helicopters. The first TD has been developed (and four are being fabricated). This engine is now undergoing flight test trials.

D) Civil aircraft/helicopters. HAL's overhaul division, established in the 1940s, has been repairing, overhauling and maintaining >70% of the Indian Air Force's aircraft and helicopter fleets.

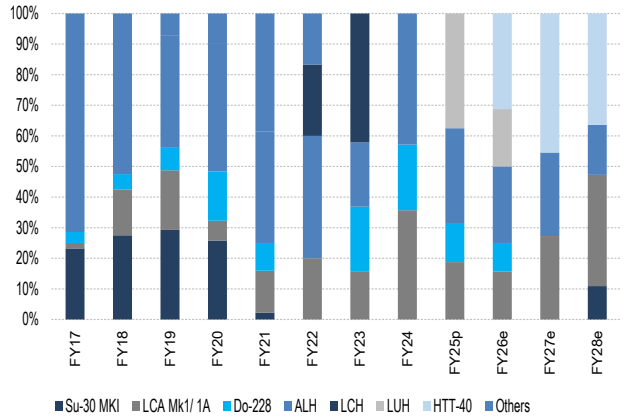
It entered civil aerospace with the conversion of Dornier Do-228s to 17-seater civil aircraft. It received certification from domestic agencies and is awaiting certification from European Union Aviation Safety Agency (EASA). A couple of deals under the 'Udaan scheme' were signed with HAL on a lease basis. Experts say ~120 aircraft would be required in the next 10 years. The company also initiated 'type certification' process of the civil LUH variant with the Directorate General of Civil Aviation in 2025 (to be flight-tested by mid-'26). It plans to proceed with EASA (European) certification.

E) Aircraft conversion. HAL signed an MoU with IAI, Israel, in 2022, to convert pre-owned civil passenger aircraft into air-refuelling aircraft with cargo and transport abilities. This partnership would move forward once aircraft are identified and final conversion-technologies developed/tested.

HAL to report an 19% revenue CAGR over FY25-28

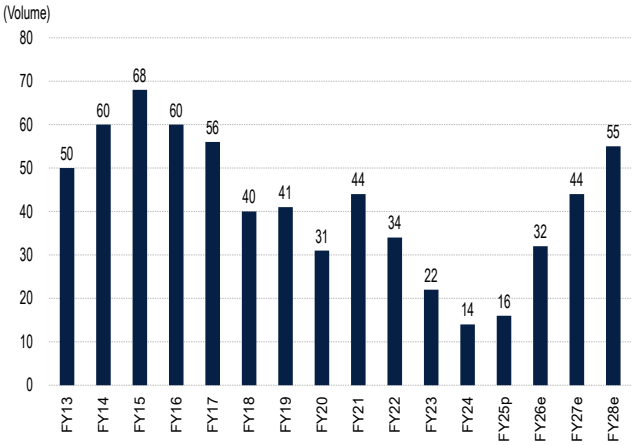
HAL reported a 7.1% revenue CAGR over FY17-25, reflecting 1) a 6.6% negative CAGR in manufacturing revenue, and 2) a 15.2% CAGR in ROH revenue. On completion of the Su-30 MKI order, and delays in the LCA Tejas program ramp-up, it had the lowest delivery of aircraft/helicopters in FY23-25. On the same lines, manufacturing revenue from a peak Rs98bn in FY17 fell to Rs59bn by FY25. On the lower base, orders (LCH, HTT-40, Su-30 MKI, ALH) and the ramp-up in LCA Tejas assure us that manufacturing revenue would register a 50.8% CAGR over FY25-28.

Fig 39 – LCA to see traction during FY26-28



Source: HAL, Anand Rathi Research

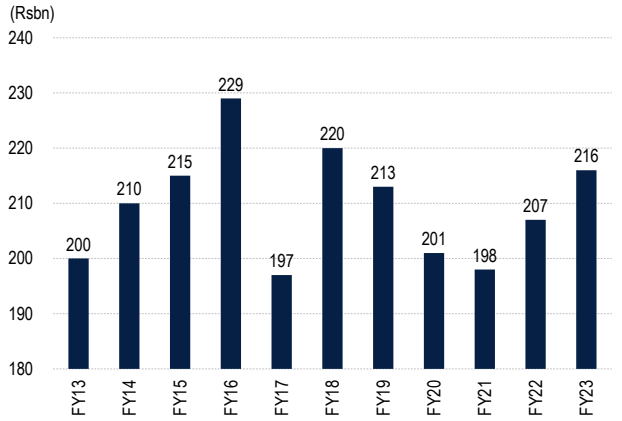
Fig 40 – FY28 to see highest delivery volumes since FY17



Source: HAL, Anand Rathi Research

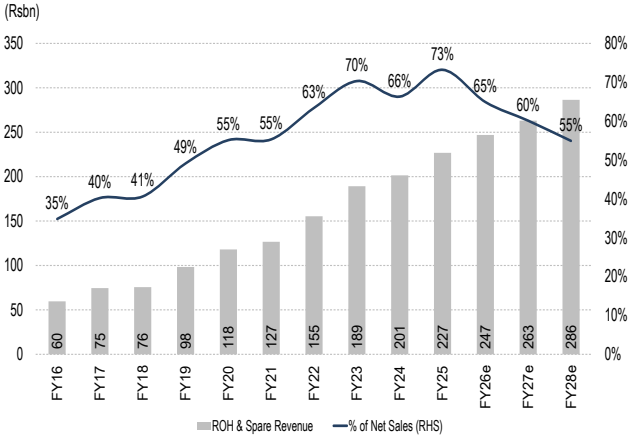
Over FY13-25, HAL conducted ROH yearly of 200-220 aircraft and helicopters. Despite stagnant volumes overall, ROH revenue recorded a 15.2% CAGR over FY17-25 to Rs227bn reflecting 1) sharp traction in Su-30 MKI spares/ROH, 2) traction in engine programs.

Fig 41 – ROH volumes yearly, 200-220 aircraft, helicopters



Source: HAL

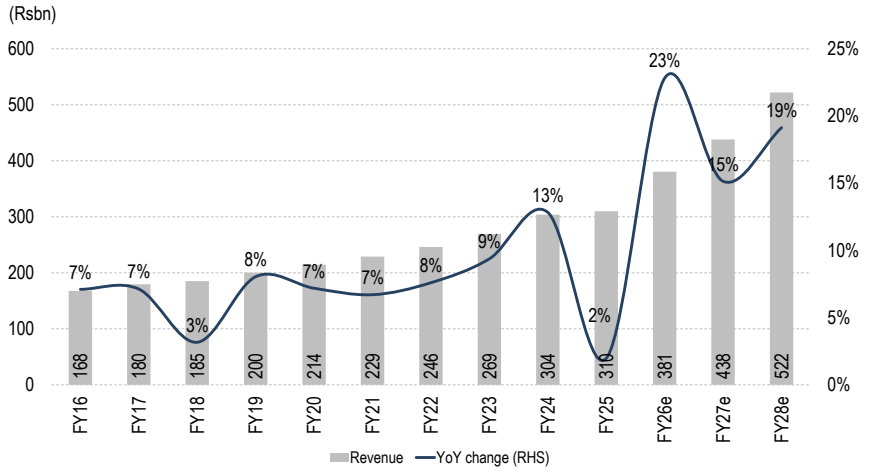
Fig 42 – Share of ROH in revenue to decline



Source: HAL, Anand Rathi Research

We expect traction in ROH from the LCA program and civil MRO work, assuring us that ROH revenue could see an 8.1% CAGR over FY25-28.

Fig 43 – Led by manufacturing, revenues to clock an 19% CAGR over FY25-28



Source: HAL, Anand Rathi Research

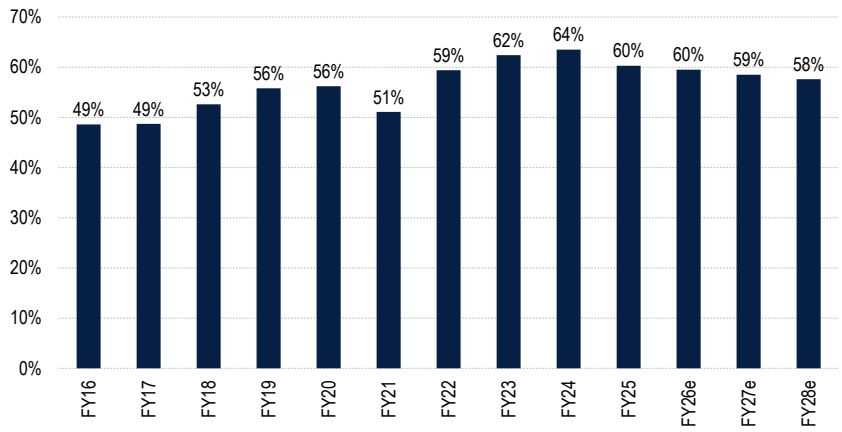
With revenue from (1) HTT-40s and LCA Mk-1As kicking in from FY26, Su-30MKI and LCH kicking in from FY28, and (3) traction from the Russian engine programs, the ALH, Dornier Do-228 programs should help HAL report an 19.0% revenue CAGR over FY25-28 to Rs521.9bn.

Healthy GM outlook ahead

HAL has a dedicated indigenisation department, which led to >98,500 indigenous parts used in its various platforms since 1994-95, the highest by Defence PSUs in India. This import substitution (including Line Replaceable Units) strategy has saved at least ~15-20% in RM costs. HAL reported a gross margin expansion over FY16-25 (49% to 60%) on more indigenisation across platforms, and a shift in mix to the high-margin ROH business (the share of which to revenue rose from 34% to 73%).

With the share of manufacturing revenue likely to bounce back, when coupled with delivery of the first batch of indigenous LCA Tejas Mk-1As and HTT-40s (the proportion of indigenisation would take time to increase), we assume a 266bp gross margin decline over FY25-28 to 57.6%.

Fig 44 – Gross margins north of 51% since FY21



Source: HAL

Fig 45 – Forex savings resulting from indigenisation drive

	FY18	FY19	FY20	FY21	FY22	FY23	FY24
Items indigenised	2,000	1,566	1,501	1,004	1,412	1,298	2,046
Forex savings (Rs m)	NA	1,177	1,231	1,299	1,596	1,603	3,850

Source: HAL

Fig 46 – Percent of indigenization content over time across platforms

	FY16	FY17-18	FY21	FY22-24	FY25	Future
Su-30 MKI	56		60			63
Super Su-30 MKI						78
Hawk 123	42	42				
LCA Tejas	50		52	60		
LCA Tejas Mk-1A						72-75
ALH				55		
HTT-40					56	65
LCH		45		55		65
LUH				55		65
Dornier Do-228			40		73	
Klimov RD-33 Engine						96
AL-31FP Engine *	53					63
Artouste- IIIB						72

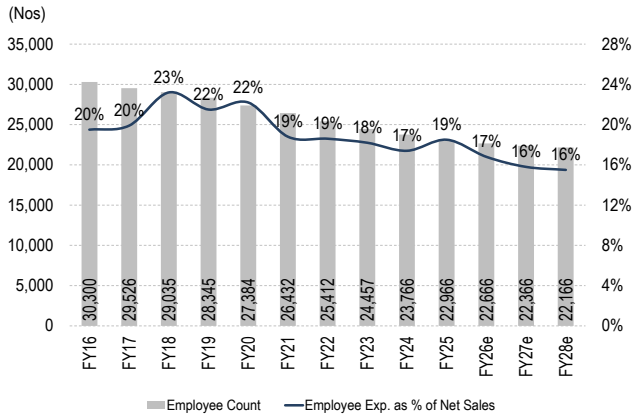
Source: Industry, Media articles Note: AL-31FP engines on a cost basis;

Strong margin outlook ahead

EBITDA margins over FY16-FY25 expanded from 14.7% to 31.1%, reflecting the benefit of 1) >7,300 employees superannuated in that time, and 2) wage agreement with employees frozen for 10 years (for officers five years) starting FY17.

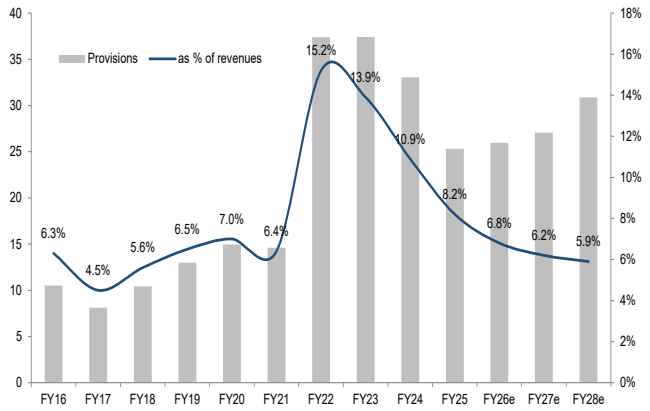
Absent debt on the books, the benefit from the EBITDA margin percolated down to the PAT margin (from 19.1% in FY16 to 34.9% in FY25).

Fig 47 – Employee count to continue to decline



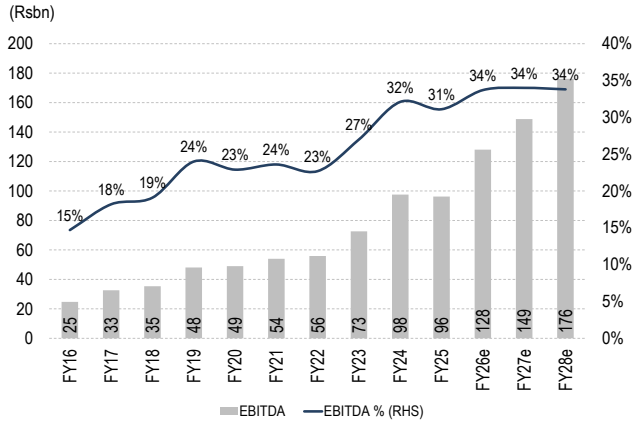
Source: HAL, Anand Rathi Research

Fig 48 – No major provisions assumed during FY26-28



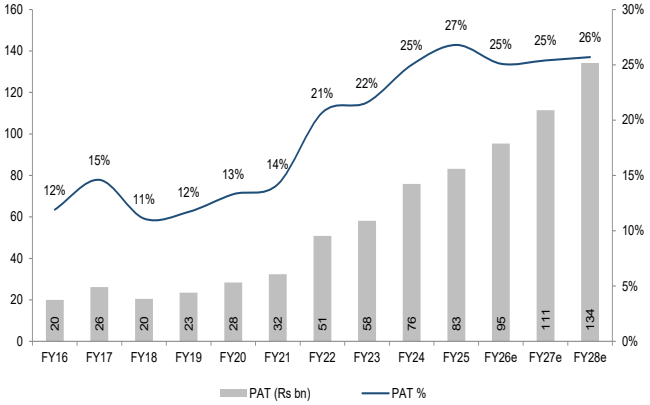
Source: HAL, Anand Rathi Research

Fig 49 – EBITDA margins set to expand over FY25-28



Source: HAL, Anand Rathi Research

Fig 50 – Net margins to go north of 25% over FY26-28



Source: HAL, Anand Rathi Research

We estimate HAL's fixed cost at ~Rs65bn-68bn. The company plans to reduce its net employee count every year by 300 for the next 2-3 years. Despite our assumption of a gross margin decline, the better absorption of fixed costs (as wages for FY26-27 have been frozen) and no major provision assumption comfort us that HAL would report a 270bp EBITDA margin expansion over FY25-28 to 33.8%. On our lower other-income estimate, rise in depreciation expense and a slight increase in the tax rate, we expect FY28 PAT margins at a healthy 25.7%.

Strong CFO generating potential

We expect HAL to report FY26-28 cumulative CFO of Rs487.1bn, higher than the Rs218.7bn generated over FY24-25. This strong CFO generation is due to operating profit from the business, milestone-linked receipts, and advances from new orders. Notably, the combined CFO/ EBITDA conversion ratio for FY26-28 is 108%, reflecting the quality of CFO generated.

Key investor questions answered

When will the Light Combat Aircraft program gain traction?

MoD order details. HAL has so far received three orders: two MK-1 orders in 2006 and 2010 of 40 aircraft (32 fighters, eight trainers; delivered) and a third order for 83 Mk-1A aircraft (>40 improvements) in 2021.

The LCA Tejas program after entering the production stage has been marred by 1) internal issues (capacity constraints, delays in vendor eco-system ramp-up, software bugs for radar and EW-suite integration, flight-testing issues), and 2) external issues (largely tied to GE engine deliveries).

The company has addressed capacity constraints with three fully functional lines. It started with the LCA division, Bengaluru (eight Tejas a year) and converted the Hawk Trainer Jet facility to set up a second assembly line - aircraft division, Bengaluru (investing Rs13.8bn; eight Tejas a year). It recently converted part of the Su-30 MKI plant at Nashik to set up a third assembly line (the first aircraft to be rolled out soon), taking total capacity to 24 LCA Tejas a year.

It is focusing on integration by increasing outsourcing (70% of aircraft cost) of major modules to tier-I manufacturers such as Dynamatic Technologies (for front fuselages), VEM Technologies (for centre fuselages), Alpha Tocol (for rear fuselages), L&T (for wings) and the National Aerospace Lab together with Tata Advanced Materials (for tail fins and rudders). Even though a ramp-up has been delayed, these tier-I manufacturers are now almost prepared. At peak efficiency, they can help HAL manufacture and deliver 30 LCA Tejas a year.

The company has put in place the best aerospace manufacturing practices, translating to efficiencies. These ongoing/completed initiatives are

1. moving assembly stations with dedicated tool sets, QA checklists;
2. standardised sub-assembly kits for fuselage barrels, wings and empennage;
3. controlled environment assembly lines (which help in composite curing, precision alignment and faster avionics integration);
4. precision jigs, fixtures calibrated to 50–80 microns for wings, fuselages, empennage assemblies (modularity helps in switching between variants);
5. digital manufacturing tools (CATIA-based 3D digital twin systems for alignment, tool setup and tolerance control) and digital inspection tools for quality assurance.

The biggest issue for delay in delivery of the first LCA Tejas Mk-1A is software tuning, validation for ELTA ELM-2052 AESA radar, EW suite, integration with weapons and other munitions.

Also, LCA Tejas flight trials with Cat-B engines require system validation, edge-case handling, mission software, frequent safety checks, software compliance documentation and flight/type certification. We understand that most of these issues have been addressed and are at late stages. One can expect the first LCA Mk-1A delivery in Aug'25.

Issues external to HAL started with GE delaying GE-404 shipments to HAL. GE was scheduled to start deliveries from Feb'24 with 20 yearly deliveries. GE itself, however, has been impacted for some time, starting with RM

availability (mainly titanium sheets/sponges) with the outbreak of the Russo-Ukraine war. It addressed the issue by switching RM procurement to western players such as ATI and Howmet Aerospace.

Then, the issue of a few vendors moving out of the GE engine eco-system and the financial woes of a few vendors impacted engine delivery schedules from GE's two plants (Lynn, Massachusetts, USA and Changwon, South Korea).

Lastly, Trump 2.0 shook up the GE engine eco-system with tariff hikes. This threatens to disrupt timely delivery of engine parts, raising production costs and stretching lead times (as seen in the earlier tariff increases).

Against these developments, GE (during 2023-25) invested $30m-31m yearly for 1) tooling re-design, 2) adding equipment and 3) infrastructure to enhance its engine testing and assembling plant.

These initiatives allowed GE to come up with a revised engine delivery schedule to HAL. It delivered one engine in Apr'25 and assured delivery of two a month starting Jul'25 (totalling 12 by Dec'25). Thereafter, it plans to deliver 24 engines every year by 2029.

Even though ongoing capex within GE Engines comforts us, we expect delivery schedules to HAL to be delayed in FY26. We expect all issues with regard to engine delivery to have been addressed by FY27. Accordingly, we expect HAL to deliver five LCA Tejas Mk-1As in FY26 and 12 in FY27.

With the rising share of manufacturing revenues, will margins be hit?

One of the key reasons for margin expansion over FY16-25 was the mounting share of ROH to total revenue and focus on indigenisation. With the sharp jump expected in manufacturing revenue, concerns are being raised about the margin outlook. After the LCA Tejas Mk-1A order was placed with HAL in Feb'21 (HAL placed back-to-back orders with suppliers), raw material prices have shot up ~15-20%, raising concerns about HAL's ability to report higher EBITDA margins.

We believe prompt procurement planning by the company could avoid these margin concerns to an extent. Even before the 83 LCA Tejas Mk-1A order, HAL had brought the material required to the purchase order stage (on signing an order, awarding starts, avoiding time and cost over-runs).

After signing an order and receiving a 15% advance, HAL initiated the procurement process by starting RFPs/tenders for some items. On receipt of the next 10% milestone (triggered when 40% of the advance value is exhausted), HAL placed orders for 70% of the project RM costs (incl. composites, metallic and engines). 30% of project-related RM costs (incl. radars, avionics, other LRUs) have already been placed. Here, prices with vendors are fixed and delivery timelines frozen. Also, HAL benefits from LRUs being indigenised than what was estimated during budgeting.

Also, from an execution point of view, for the next two decades, light combat aircraft and its variants (unlike the Su-30 MKI last decade ending FY21) would be the flagship fighter being offered by HAL.

Program-wise, HAL is seeing a huge transition from manufacturing 3.5 gen twin-engine Su-30 MKIs to 4.5 gen single-engine LCA Tejas. Both are billed at different prices, Su-30 MKIs for ~Rs4.3bn and LCA Tejas for ~Rs3.09bn.

Even though both are of different generations, the price difference captures the following:

1. The Su-30 MKI is a 25-ton twin-engine aircraft and the LCA Mk-1A is a nine-ton single-engine aircraft (both not loaded with weapons and ammunition),
2. each Su-30 MKI would take ~0.35-0.4m man-hours, whereas each LCA Tejas at the start was taking ~0.18m man-hours, targeted to be reduced to ~0.11-0.12m, and
3. implementation of better tooling practices (unlike earlier, HAL now works with pre-designed tools for Tejas).

Accordingly, we are not concerned about any hug impact from the rising share of the LCA Tejas program on the company's overall margins.

SWOT Analysis

Fig 51 – Monopoly with no nearest competitor

Strengths	Weakness
- **The only aircraft OEM in India.** HAL is the only Indian company with a full range of capabilities to design, develop, manufacture, upgrade, and maintain aircraft, helicopters and aero-engines - **Strong government backing.** As a Navratna PSU under the MoD, it benefits from favourable policies and assured orders - **Strong order book.** In Q4 FY25, it had outstanding order book of Rs1,893bn, offering multi-year revenue assurance - **High indigenisation:** Home-grown platforms such as Tejas Mk-1A, ALH Dhruv, LCH, LUH are showcasing increasing indigenous content - **R&D, DRDO linkages.** 7-8% of yearly R&D spend and deep connections with DRDO labs would enable the fast adoption of technologies for next-gen platforms such as AMCA, CATS Warrior, HTSE-1200 - **Strong balance sheet.** Zero-debt, large cash reserves and high cash generation allow for self-funded expansion and dividends	- **Dependent on MoD orders.** Heavily reliant on the MoD, with limited exposure to commercial aviation - **Long cycle to book revenue.** Manufacturing cycles for platforms are as long as 7–8 years, indicating that it takes time to book revenues - **Limited export revenue.** Despite platform capability, exports are less than 5% of revenue, indicating lack of export thrust - **Bureaucratic culture.** Decision-making is long and time consuming; speed of innovation is slow compared to private manufacturers - **Supply-chain inefficiencies.** Great dependence on tier-I and -II suppliers has constrained HAL in making timely deliveries
Opportunities	**Threats**
- **The Tejas program.** To capitalise on all coming requirements with regard to all variants of the Tejas - **Helicopter orders.** 300-400 helicopters (incl. ALH, LCH, LUH) will be ordered in the next decade by the IA, IAF, IN and paramilitary forces - **Emerging programs.** HAL is involved in developing AMCA, TEDBF, CATS (loyal wingman), HAPS and RUAVs, which would open up manufacturing opportunities - **Export opportunities.** Interest from Philippines, Argentina and other countries in ALH, LCH, Do-228, Tejas platforms - **MRO, ROH expansion:** Steady growth in domestic MRO (inc. civil), engine overhauling and fleet support across platforms	- **Competition from the private sector.** Private manufacturers such as Tata Advanced Systems and Adani Defence are entering Defence aviation manufacturing. They could be an emerging threat - **Risk of imports.** HAL depends on Russian sub-systems, RM, and engines, which pose the risk of sanctions or delays - **Procurement delays.** Shifting MoD priorities and emerging geo-political scenarios can reduce or change planned orders, thereby impacting revenue cycles - **Work-force attrition.** HAL is faced with challenges in retaining skilled engineering talent with the growing private-sector opportunities.

ESG Assessment

The public sector Hindustan Aeronautics strives to become a significant global player in aerospace while focusing on environment protection, conserving natural resources and the welfare of employees and society at large. It has demonstrated its sense of responsibility to the community and environment through various measures over the years, nurturing community growth and development. Several initiatives have been undertaken in the past few years to reduce the impact of its operations on the environment.

Environmental	
Carbon footprint matrix	
Total GHG (in '000 tonnes)	140.47
GHG / sales	49.38
GHG / EVIC	23.82
Net-zero targets set	No
SBTi targets	No
Sustainable debt	
Green debt	-
Social debt	-
Sustainability debt	-
Sustainability-linked	-
Transition debt	-
Third-party ESG rating	
MSCI rating	NA
Sustainalytics risk score	NA
Sustainalytics risk category	NA
S&P global ESG rank	25
Environmental	23
Social	34
Governance & Economic	20
EU SFDR parameters	
Bio-diversity policy	No
Human rights policy	Yes
% of women on the Board	12.5

Source: S&P, HAL

Environmental

- **Changing the energy mix** and introducing renewable resources has been the company's ongoing efforts. It has implemented several energy conservations measures over the years, which resulted in lower energy for operations. It has committed to install 50MW of renewable energy plants to reduce its carbon footprint. Wind and solar power plants of about 50 MW capacity have already been installed. This includes
  - **Rooftop solar.** 7.57MW. Ongoing plans to install another 1.4MW.
  - **Ground-mounted solar.** 26.5MW till now
  - **Wind.** 14.7MW in Karnataka
- **Water use.** Promoting water conservation by taking adequate measures like stopping leaks, spreading awareness, etc. Installed rain-water harvesting (RWH) systems at all sites. Suitable buildings are identified and RWH systems put in place. Stored rainwater is used for gardening and other non-potable uses. The company's water intensity turnover has dropped from 548.55kl/cr in 2021 to 474.08kl/cr in 2022 and to 469.91kl/cr in 2023 and 444.14kl/cr in 2024, a positive indicator.
- **Waste management** is a critical aspect of the company's environmental policy, managing all kinds of waste separately:
  - Municipal **solid** waste generated from townships/factories is segregated at source (wet, dry, garden, sanitary, rejects). Via vermin composting, bio-degradable waste (domestic, horticulture) is turned into manure
  - Divisions which generate **hazardous** effluents (chrome, acids/alkalis, cyanide, etc.) have independent treatment plants. After treatment, samples are periodically checked in labs. The sludge is disposed off through agencies authorised by pollution-control boards.
  - **E-waste** generated is stored in designated areas (under cover) and auctioned through the MSTC (a Central PSU) for disposal by authorised dismantlers, recyclers and re-furbishers.
  - **Waste oil** produced during maintenance/overhauling of equipment, vehicles and machinery is collected at source in leak-proof containers. This is stored safely in demarcated areas inside salvage yards and handed over to re-cyclers authorised by pollution control boards, through the MSTC.

Social

The turnover rate of permanent employees was lower in FY24 than in FY20. This speaks well of management's ability to retain core talent.

Fig 52 – Lower turnover rate in FY24 than in FY20

	FY20			FY21			FY22			FY23			FY24		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Permanent employees	0.22	0.09	**0.31**	0.13	0.09	**0.22**	0.18	0.06	**0.24**	0.23	0.05	**0.28**	0.21	0.05	**0.26**
Permanent workers	0.05	0.08	**0.13**	0.04	0.06	**0.10**	0.01	0.04	**0.05**	0.07	0.00	**0.07**	0.11	0.00	**0.11**

Source: HAL

Fig 53 – HAL has spent more on training during FY21-FY24

FY21			FY22			FY23			FY24		
Total	On Health and Safety Measures	On Skill Upgrading	Total	On Health and Safety Measures	On Skill Upgradation	Total	On Health and Safety Measures	On Skill Upgradation	Total	On Health and Safety Measures	On Skill Upgradation
Employees											
25,435	6.4%	34.2%	**24,375**	22.1%	51.3%	**23,450**	63.0%	40.2%	**22,655**	55.8%	38.2%
Workers											
17,472	10.0%	35.0%	**16,695**	22.6%	22.3%	**15,980**	66.2%	55.3%	**15,344**	55.0%	53.8%

Source: HAL

- **Employee training, Talent enrichment.** The company has designed and administered training programmes at all levels. While the percentage of employees exposed to skill upgrading decreased year by year, the number of workers also declined. On training, concerning health and safety measures, there was a year-over-year downward trend in workers and employees.

Governance

Fig 54 – Board of Directors (BoD) composition

Particulars	2017	2018	2019	2020	2021	2022	2023	2024
Size of the Board ^	6	11	14	13	11	9	8	8
Board Independence								
No. of Non-Executive Directors	1	1	2	2	2	2	2	2
% of Non-Executive Directors	*16.7*	*9.1*	*14.3*	*15.4*	*18.2*	*22.2*	*25.0*	*25.0*
No. of Independent Directors ^	1	5	7	6	4	2	2	2
% of Independent Directors	*16.7*	*45.5*	*50.0*	*46.2*	*36.4*	*22.2*	*25.0*	*25.0*
Independent Chairperson	No	No	No	No	No	No	No	No

^ *Peak levels*

Particulars	2017	2018	2019	2020	2021	2022	2023	2024
Women on Board ^	1	1	2	1	1	2	1	1
% of Women on Board	*16.7*	*9.1*	*14.3*	*7.7*	*9.1*	*22.2*	*12.5*	*12.5*

Source: HAL

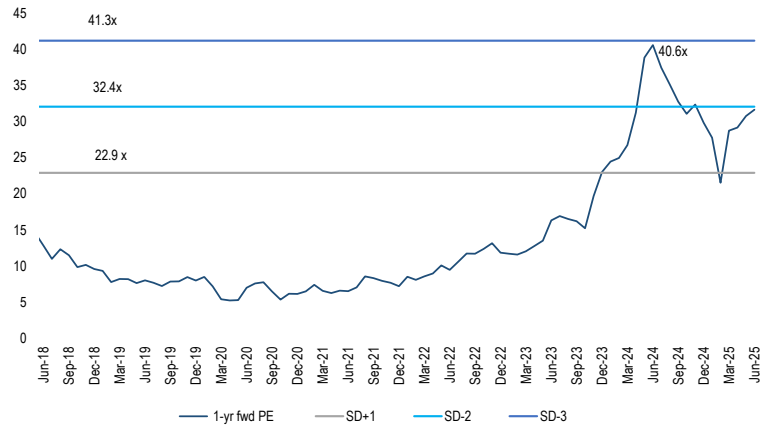
- **Board Composition:** The size of the Board has shrunk from a peak 14 members in 2019 to eight in 2024.
- 25% of its Board are independent directors, fewer than the desired 50%. Yet, the Audit and Remuneration Committee has two independent directors of three members and 100% attendance in related meetings.
- **Women on the Board.** One female director (mandatory) in 2024.

Outlook, Valuation

In FY25, HAL reported a sharp increase in orders to Rs1.25trn (higher than FY20-24 order inflows of Rs1.56trn), to take the order book at end-FY25 to Rs1.89trn. We expect traction in the LCA, HTT-40 and Russian engine programs. Accordingly, we expect a 19.0% revenue CAGR over FY25-28, driven by a 50.8% revenue CAGR in its manufacturing category.

Given its long record of accomplishments, it has built a long tail of programs (of >Rs2.9trn) over FY26-32 (of this, we expect orders of Rs1.79trn over FY26-28). We expect the strong revenue growth to percolate down to a 17.3% PAT CAGR over FY25-28 on the (1) focus on more indigenisation across platforms, and (2) better absorption of the Rs60bn-65bn of its fixed costs (wage revision frozen for 10 years starting FY17).

Fig 55 – 1-year forward P/E band



Source: Ace Equity

A declining order book, stretched WC cycle (leading to negative Rs68.8bn CFO over FY18-20) and delays in execution & milestones for the LCA Tejas order squeezed the stock (then quoted at 1-year forward P/E of 7-9x). Thereafter, HAL worked on inventory management and clearing receivables, resulting in a shorter WC cycle (inventory + AR) from 515 days in FY18 to 214 in FY24 (rising to 310 in FY25 on new orders leading to inventory build-up).

Strong cash generation, release of WC and advances from new orders helped the company report Rs558.7bn CFO over FY21-25. Over FY26-28 strong cash generation, milestone-linked receipts and advances from new orders should help it report Rs487.1bn CFO.

HAL's business model is different as government procurement plans are well laid out for the next 15-25 years. This, coupled with stretched development cycles and the approval process, could lead to deviation in order timelines. Given the nature of this business, it takes 3-4 years for production to stabilise, and lead to substantial benefits. Hence, we recommend investors to look at this stock with a five-year horizon rather than one to two years.

Fig 56 – Peer group comparison

	M-Cap, $ bn	Revenues, $ bn			EBITDA, %			PAT, $ bn			Rev. CAGR, %	PAT CAGR, %	RoE, %			P/E, x	
		FY26	FY27	FY28	FY26	FY27	FY28	FY26	FY27	FY28	FY26-28	FY26-28	FY26	FY27	FY28	FY27	FY28
HNAL IN EQUITY	35.5	4.4	5.1	6.1	33.7	34.0	33.8	1.1	1.3	1.5	17.1	18.6	24.9	24.4	24.6	27.1	22.5

	M-Cap	CY25	CY26	CY27	CY25	CY26	CY27	CY25	CY26	CY27	CY25-27	CY25-27	CY25	CY26	CY27	CY26	CY27
BA US EQUITY	175.7	84.8	96.9	107.6	4.5	8.7	10.2	-0.84	2.9	5.3	12.6	NMF	6.8	79.6	157.9	58.6	33.1
EMBR3 BZ EQUITY	8.8	7.2	8.3	9.1	11.2	11.8	12.4	0.37	0.49	0.61	12.0	28.3	10.7	13.6	15.1	17.7	14.4
LMT US EQUITY	98.3	74.3	77.1	80.0	14.1	14.2	14.3	6.3	6.8	7.1	3.8	6.2	95.6	95.6	92.4	14.4	13.7
DSY FP EQUITY	47.1	7.6	8.1	8.7	36.1	35.5	35.9	2.1	2.2	2.4	7.4	8.5	18.1	17.7	17.6	20.9	19.0
SAABB SS EQUITY	26.6	7.7	8.9	10.5	14.0	14.6	14.9	0.58	0.71	0.89	16.6	24.1	14.6	15.7	17.0	37.2	29.9
AIR FP EQUITY	167.1	87.3	97.4	107.6	13.1	13.4	14.0	5.9	7.2	8.6	11.0	20.5	24.3	25.5	25.7	22.9	19.4
Average													**28.3**	**41.3**	**54.3**	**28.6**	**21.6**

Source: Bloomberg, Anand Rathi Research *Note: NMF- Not meaningful, HAL CMP as of 28-07-2025; CMP of other companies as of 25-07-2025*

We have compared HAL to global aircraft and helicopter manufacturers. Of all platform companies, it impresses us, given that it has one of the highest OB/LTM sales ratios, at 6.1x, one of the highest EBITDA margin amongst the peers, strong earnings growth, a clean balance sheet, strong CFO-generating potential, and a healthy RoE (>24%).

At the CMP of Rs4,508, the stock quotes at 27.1x/22.5x FY27e/FY28e EPS. The company is entering its best execution phase, with revenue expected at a faster ~18.9% CAGR over FY25–27, the fastest since FY10.

After 'Operation Sindoor', the IAF is focused on quickly re-building squadron strength. HAL stands to benefit from accelerated procurement and policy tailwinds. Its monopoly and planned platform launches support strong long-term fundamentals.

With sustainable long-term growth, >24% RoE and greater cash-generation potential over FY26–28, we believe the premium valuation is justified. Accordingly, we assign a 32.4x P/E multiple (implying mean + 2σ) to average of FY27e and FY28e EPS of Rs183.7/share to arrive at a TP of Rs5,950. Given 32% potential from levels now, we initiate coverage on the company with a Buy recommendation.

Risks

- Import of aircraft/helicopter by MoD along with 'ToT' (transfer of technology) arrangement could positively surprise our estimates.
- Procurement delays on RM/sub-system level (like GE-404 engine delays) could hamper aircraft deliveries and our revenue assumptions.
- The employee wage agreement has been frozen for 10 years (five for officers), starting end-FY17. Steep increases in employee expenses could be a risk to our estimates.
- Unexpected corporate action resulting from excess cash.
- The GoI has a 71.6% stake in HAL. Any plans to bring down the stake, such as an OFS could be a negative for our target price.
- Given the preparation and aspiration of the Tata Group, we see it as a distant competitor. Any orders won by the Tata Group on the AMCA and IMRH projects (as part of SPV) would create long-term competition for HAL, possibly a decade from now.
- An aircraft/helicopter platform on attaining 75–80% indigenisation, in our view, could be peak levels; further indigenisation would require more capabilities to build an eco-system. This may take time, and not immediately yield the desired cost savings.
- Surprise to our inventory or AR day assumptions could impact our cash-flow estimate.

About the company

Founded as Hindustan Aircraft in Bangalore, the company in its current form came into existence in Aug'63. Since then it has emerged as the only one in India to design, develop, manufacture, repair, overhaul, upgrade and service military-grade aircraft, helicopters and aero-engines. It is India's largest public-sector Defence undertaking (on the basis of production value).

Of the 31 types of aircraft/helicopters it manufactures, 17 are indigenous. Till now, it has manufactured >4,250 aircraft (Russian and Western) and >5,330 engines.

HAL's legacy

The company started assembling Harlow PC-5s and Curtiss Hawk-75A trainers under license from the British Royal Air Force, in 1942. In 1958 it took up full-scale licensed production of Folland Gnat fighters. In the late '50s, it designed and developed HT-2 trainers, HF-24 fighters (Marut), and HJT-16 basic jet trainers (Kiran), which were inducted into the Indian Armed Forces.

In the '60s it signed a technology-transfer agreement and started licensed production of the Russian MiG series, followed by Chetak and Cheetah helicopters. This shift in strategy helped it to broaden its footprint in the available low-hanging manufacturing side. Till now, it has produced 31 types of aircraft and helicopters.

In the '90s, it moved a step forward by focusing on indigenous design and development of LCAs, ALHs, LCHs and LUHs. All these are now at the manufacturing stage. Notably, it is gearing up to execute an 83 LCA Tejas Mk-IA aircraft order.

Fig 57 – Aircraft and helicopters developed and manufactured

Source: HAL

HAL's manufacturing facilities

HAL has a dominant role in manufacturing Defence aero-platforms, it claims to have worked on >90% of IAF's nine fighter platforms and >40% of the latter's helicopter platforms. It has 20 production divisions, all organized under five complexes (Bengaluru, MiG, Helicopter, Accessories and Design).

Fig 58 – Details of key manufacturing facilities

Source: HAL

Qualified management team

The company has a strong leadership team at the helm. Of the nine directors on the Board, four are from within, the others have diverse backgrounds, representing stakeholder interests.

Fig 59 – Strong leadership team driving the business

Name	Designation	Education
Dr. D.K. Sunil	- Chairman & MD; - Director (Engineering & R&D)	> 37 years of experience at HAL in various roles > Graduate in Electronics & Communication Engineering, Osmania University, > M. Tech in Aircraft Production, IIT (Madras), > Ph.D in Electronics Science, University of Hyderabad in 2019
M G Balasubrahmanya	- Director (Human Resources)	> 35+ years of experience at HAL in various roles > Bachelor of Laws (LL.B.), Osmania University > Master's in Social Work (Personnel Management & Industrial Relations), School of Social Work, Mangalore University
Barenya Senapati	- Director (Finance & CFO)	> 31+ years of post-qualification experience in Finance, 29 years dedicated to HAL
K. Ravi	- Director (Operations)	> Bachelor's in Mechanical Engineering > Alumnus of IIM Ahmedabad and Institut Aéronautique et Spatial (IAS), Toulouse, France, with 30+ years of diversified experience
Rakesh Bhawsar	- Independent Director	> 22+ years of expertise in statutory, internal, and government audits > Bachelor of Science, Vikram University, Ujjain > Qualified as a Fellow Member of Institute of Chartered Accountants of India since 2002
Amit Satija	- Non Executive Director (Govt. Nominee)	> IAS officer, 2008 batch from AGMUT cadre, currently serving as Joint Secretary in MoD (Defence Production Dept.) > Master of Management Studies (MMS) from Jamnalal Bajaj Institute of Management Studies, Mumbai
M Z Siddique	- Govt. Nominee Director	> Distinguished Scientist & Director General (Aeronautical Systems) > A Mechanical Engineer, completed fellowship in Gas Turbine Technology at IAT, Pune in 1988; underwent training at General Electric in USA in early 1990s
Rajalakshmi Menon	- Independent Director	> Distinguished Scientist & Director General (Aeronautical Systems) at DRDO > M.Sc. in Computer Science, University of Poona > M.Eng. specializing in Clutter Characterisation for Airborne Platforms, IIS, Bangalore > Ph.D. in Target Recognition, Dept. of Aerospace Engineering, IIS, Bangalore
Dr. S D Premkumar	- Independent Director	> 16 years of professional experience in Healthcare > MBBS from Annamalai University, Chidambaram > Postgraduate Diploma in ENT at Madras Medical College, Chennai > Currently serves as Senior Consultant & Medical Superintendent at Bharathiraja Specialty Hospital & Research Centre, Chennai

Source: HAL

The only 'Maharatna' among Defence PSUs

In Jun'07 HAL was conferred with 'Navratna' status (management can pursue capex up to Rs10bn for a project without government approval); and, in Oct'24, with 'Maharatna' status (capex up to Rs50bn for a project without government approval; and with greater financial powers).

Update on JVs

The company has 11 commercial JVs and two subsidiaries, for access to modern technology and to expand operations to new areas.

Fig 58 – In good company – HAL's JV details

		Revenue, Rs m						PBT, Rs m					
	Stake (%)	FY19	FY20	FY21	FY22	FY23	FY24	FY19	FY20	FY21	FY22	FY23	FY24
JV													
International Aerospace Manufacturing Pvt. Ltd	50	1,555	1,602	1,054	1,485	1,848	2,508	15	49	15	98	212	333
BAe HAL Software.	49	161	191	129	145	182	202	-21	2	-25	-30	9	25
Indo Avia Services.	48	902	505	627	703	452	255	210	135	149	107	87	95
Safran HAL Aircraft Engines Pvt. Ltd.	50	1,069	1,012	424	767	1,237	1,699	118	98	48	83	183	215
Samtel HAL Display Systems.	40	174	118	141	282	235	322	-23	-23	-11	3	2	10
HALBIT Avionics Pvt. Ltd.	50	41	36	32	38	45	36	-92	-11	4	6	-4	15
Infotech HAL	50	91	29	25	19			13	-3	-8	-1		
HATSOFF Helicopter Training Pvt. Ltd.	50	390	419	370	469	615	665	-77	-203	109	91	49	190
SAFHAL Helicopter Engines Pvt. Ltd.							0						-3
HAL Edgewood Technologies Pvt. Ltd.	50	6	0	0	0	0	0	-2	0	0	0	0	0
Helicopter Engines MRO Pvt. Ltd.	50	7	14	0	0	0	0	0	0	0	0	0	-2
Subsidiaries													
Naini Aerospace.	100	40	63	47	41	115	142	-106	-130	-91	-110	-61	-31
Indo Russian Helicopters	51					0	0					-0	-2

Source: HAL

Appendix

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