

GROUND VIEW

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INDIA'S DEFENCE SECTOR
STRUCTURAL OPPORTUNITIES
FOR 'TRUEGRIT'

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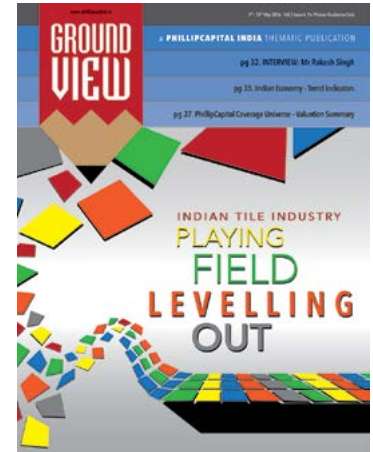
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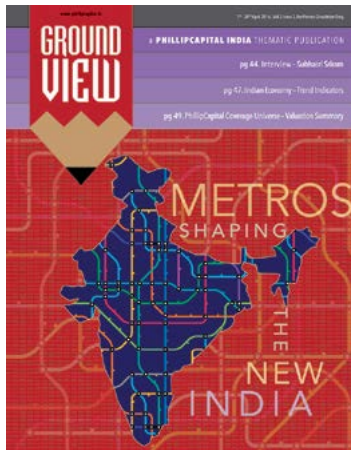
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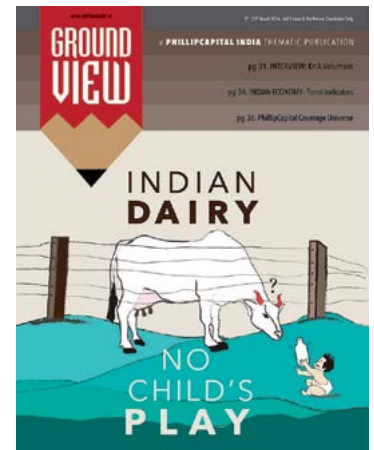
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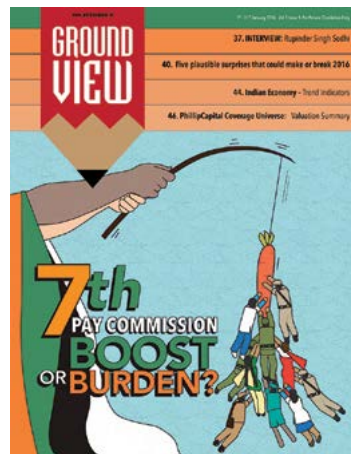
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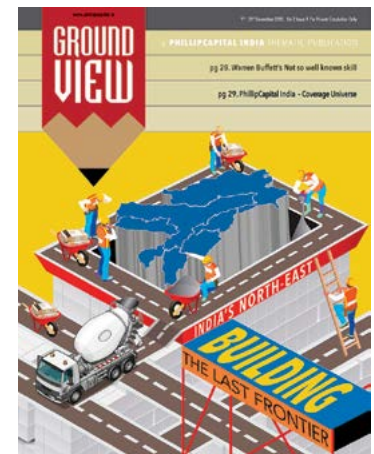
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Letter from the MD

In the past 24 months, the government has made all the positive noises for India's defence-sector - it has tried to simplify acquisition of equipment, increased focus on indigenous production, and approved US\$ 50bn worth of projects.

However, the pace of order awards have seen no material improvement.

In order to sift out the noise from reality, our analyst, Jonas Bhutta, met with independent defence consultants, domestic defence companies (listed and unlisted, public and private) and MNC companies.

Feedback from his interactions suggests that although ordering activity has not picked up pace as expected, structural changes in the sector are underway.

A key change – tier-2 sub-component manufacturers are graduating to become tier-1 product designers and developers.

Most of the defence businesses of large groups remain unlisted; however, with their increasing share in the market, these companies are potential candidates for listing, which will increase the investable depth of the sector over the next five years.

The sector will offer great opportunities for companies that are in it for the long haul; these opportunities could be staggered, but the uptrend is surely structural.

In this issue, Ground View takes a look at why it is imperative for India's defence expenditure to pick up and how its defence policies have evolved. It also tries to see if the country's domestic private industry is ready for indigenous development of complex defence equipment and tries to cut through all the buzz surrounding the 'huge potential opportunity' to see if the hoopla will translate into actual orders over the foreseeable future. This edition contains case studies on three large defence companies, which highlight their localisation efforts and potential order opportunities.

Included in this issue – a candid interview with Mr. Mithun Chittilappilly, Managing Director, V-Guard Industries Ltd., where he talks about the challenges that the domestic electricals industry has faced in the recent past, and how his company surmounted them, as well as the company's future growth plans.

Best Wishes

Vineet Bhatnagar

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Mithun Chittilappilly

Managing Director,
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BY JONAS BHUTTA

INDIA'S DEFENCE SECTOR

Structural opportunities for 'TRUE GRIT'

Observations from CAG clearly highlight the chinks in India's armour. Its defence forces have faced a shortage of personnel and critical equipment because acquisition and modernisation plans remain stuck in a mesh of bureaucracy. Out-dated equipment, technologically backward, low reliability, and perennially in short supply – these are just some of the problems with India's defence equipment. Delayed modernisation has ensured that defence capabilities are way behind countries such as China. India now spends 1.1% of its GDP on defence (capital expenditure ex-land and construction), which is higher than the US (0.8%) and largely in line with that of UK (1.4%). While India's capital defence spending has increased (vs. US and UK), only a small part of it goes towards new equipment. In addition, almost 60% of the annual capital budget is towards imports, mainly because India's defence PSUs lack the expertise to manufacture complex systems and private sector participation is nascent. In order to correct this anomaly, the current government has taken steps towards changes to procurement procedures – by introducing new category IDDM, revision of the defence products list, issuing industrial licenses to the private sector, and relaxing FDI norms. Ground View undertook case studies across three segments of the defence industry – defence PSU (Hindustan Aeronautics), private sector (Tata Power's four-decade-old Strategic Electronics Division), and an MNC (Safran).

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It is now or...

In December 2015, Comptroller & Auditor General (CAG) observed that Indian Army's availability of authorised stock against War Wastage Reserve (WWR, which measures war preparedness) is low. Thus, against a WWR of 40 intense war (I) days, in 50% of the total types of ammunition, the availability was 'critical' – i.e., less than 10 (I) days. Inability of the Ordnance Factory Board (OFB) to meet the army's demand was a major cause for this shortage. Delayed modernisation has ensured defence capabilities are way behind countries such as China.

An independent defence consultant highlighted that India's annual capital defence spending has averaged US\$ 11bn per annum over the past five years. However, only about 8% of this capex goes towards ordering new equipment; the rest is payments for equipment that was bought earlier.

The reasons for the under investment, he said, are well documented – India shares a border with two hostile neighbours – Pakistan and China. Also, its defence forces face serious shortages of critical equipment – not just fancy high-tech equipment, even basic war-time necessities.

How does India stack up against its two closest neighbours?

India's defence strength exceeds Pakistan's, but it is grossly inadequate compared to China's. More ominously, India's equipment is out-dated; hence, even if its numbers seem large, its equipment reliability in active combat is low.

Defense system comparison

	China	Pakistan	India
Active Frontline Personnel	2,335,000	620,000	1,325,000
Land System			
Tanks	9,150	2,924	6,464
Armored Fighting Vehicles (AFV)	4,788	2,828	6,704
Self Propelled Guns	1,710	465	290
Towed Artillery	6,246	3,278	7,414
Multiple- Launch rocket System	1,770	134	292
Air Power			
Total Aircraft	2,942	923	2,192
Fighters/Interceptors	1,230	304	915
Fixed-Wing Aircraft	1,385	394	720
Transport Aircraft	782	261	316
Trainer Aircraft	352	170	277
Helicopters	802	306	656
Attack Helicopters	200	52	30
Naval Power			
Total Naval Strength	714	197	295
Aircraft carriers	1	-	2
Frigates	48	10	14
Destroyers	32	-	10
Corvettes	26	-	26
Submarine	68	5	14
Coastal Defense Craft	138	12	135
Mine Warfare	4	3	6

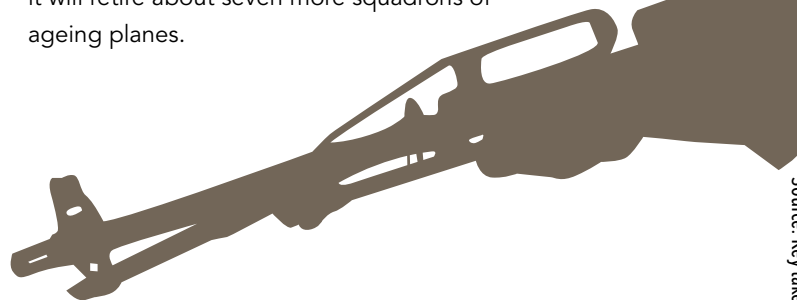
Source: Global Fire Power, Media articles

It is a generally agreed that India's defence expenditure needs to see a quantum jump from current levels

**WE ARE
NOT
READY!**

Severe shortage of critical equipment

Indian armed forces face a shortage of equipment across the board. Right from ammunition for rifles, bulletproof jackets, howitzer guns, submarines, to fighter jets. For instance, the Indian Air force operates only 32 squadrons of fighter aircrafts against the mandated 44; over the next five years, it will retire about seven more squadrons of ageing planes.



- The army's entire tank fleet is devoid of critical ammunition to defeat enemy tanks
- Air defence is 97% obsolete and it doesn't give the deemed confidence to protect...from the air
- The infantry is crippled with deficiencies of crew-served weapons and lacks night-fighting capabilities
- Elite Special Forces are woefully short of essential weapons
- There are large-scale voids in critical surveillance; night fighting capabilities

"Helicopters held are old and aging, with 52% of the fleet more than 30 years old. Effective availability of helicopters for operations is further reduced to 40% of the authorisation due to low levels of serviceability of the existing fleet. Of the 181 Cheetah and Chetak helicopters flown by the army pilots, 51 are 40 years old or older and 78 between 30 and 40 years old. We observed that against 18 schemes approved in 11th and 12th Service Capital Acquisition Plan, contracts in respect of only four schemes could be concluded in the nine years period."

Source: Key takeaways from General VK Singh's letter to ex-PM Manmohan Singh in 2012

Chinks in India's armour

Army	Navy	IAF
<p>Soldiers lack:</p> <ul style="list-style-type: none"> • New assault rifles • Close-quarter battle carbines • Light machine guns • Sniper rifles • Modular bullet-proof jackets • Light-weight ballistic helmets 	<ul style="list-style-type: none"> • 13 old diesel electric submarines • Only one nuclear powered INS Chakra, which is on lease from Russia 	<p>Needs 44 fighter squadrons; has only 32</p>
<ul style="list-style-type: none"> • Needs to have enough ammunition for 40 days of intensive fighting; does not have enough to even fight for 20 days 	<ul style="list-style-type: none"> • Warships bereft of multi-role/ anti-submarine warfare helicopters 	<p>11 squadrons of ageing MIG-21 and MiG-27</p>
<ul style="list-style-type: none"> • Obsolete guns 	<ul style="list-style-type: none"> • Needs 24 mine countermeasure vessels - has only six old mine sweepers 	<p>Poor serviceability of Sukhoi-30MKI's and Jaguar</p>
<ul style="list-style-type: none"> • Poor night-fighting capabilities • Ageing light helicopters 		<ul style="list-style-type: none"> • Needed six new mid-air refuellers

Defence forces have faced a shortage of personnel and critical equipment because acquisition and modernisation plans remain stuck in a mesh of bureaucracy



CAG observed that availability of authorised stock against War Wastage Reserve (WWR, which measures war preparedness) has been low. Thus, against WWR of 40 intense war days, in 50% of the total types of ammunition, availability was ‘critical’ – i.e., less than 10 (l) days. Inability of the Ordnance Factory Board (OFB) to meet the army’s demand was a major cause for this ammunition shortage. Delayed modernisation has ensured defence capabilities are way behind countries such as China.

Source: CAG comments in December 2015

War time ammunition survey

Range of days (l)	Number of types of ammunition				
	2009	2010	2011	2012	2013
<10	15	57	62	77	85
>=10 to <15	15	22	12	14	21
>=15 to <20	17	14	17	22	19
>=20 to <25	14	15	16	8	9
>=25 to <30	8	6	7	7	7
>=30 to <35	4	6	7	3	6
>=35 to <40	4	3	11	4	6
>=40	24	22	13	18	17
Total	101	145	145	153	170
% of ammunition <20 days of intense war	47%	64%	63%	74%	74%

Almost 74% of the war time ammunition surveyed by CAG was below critical levels of less than 20 days

Source: CAG Report 2015

Making sense of the madness

“India is good at framing policies; it is in implementation that it lags behind”

- Independent defence consultant

Up until the 1980s, India's defence acquisition was carried out on a government-to-government basis, primarily with the erstwhile Soviet Union. However, defence deals have been dogged by corruption, lack of transparency, and bureaucratic hurdles – leading to delays in acquisition. Due to this, a strong need was felt to simplify the entire

defence procurement procedure, expedite time-lines, and to promote India's indigenous industry and platforms. With these objectives, the DPP (Defence Procurement Procedure) was introduced in 2002, and has undergone numerous amendments (2003, 2005, 2006, 2008, 2011, 2013, and the latest one in 2016) since then.

Evolution of the DPP in India

	2006	2008	2011	2013	2016
I	Buy (Indian) IC* -30%	Buy (Indian) IC -30%	Buy (Indian) IC -30%	Buy (Indian) IC -30%	Buy (Indian-IDDM) IC 40%- if designed, developed and manufactured indigenously 60% - if designed and Developed not indigenously
II	Buy (Global)	Buy (Global)	Buy (Global)	Buy (Global)	Buy (Indian) IC- 40%
III	Buy and Make	Buy and Make	Buy and Make	Buy and Make	Buy and Make (Indian)- IC-50% in Make contract
IV	Make		Buy and Make (Indian) IC -50%	Buy and Make (Indian) IC -50%	Buy and Make
V			Make (Decision)	Make (Decision) IC-30%	Buy (Global) Make

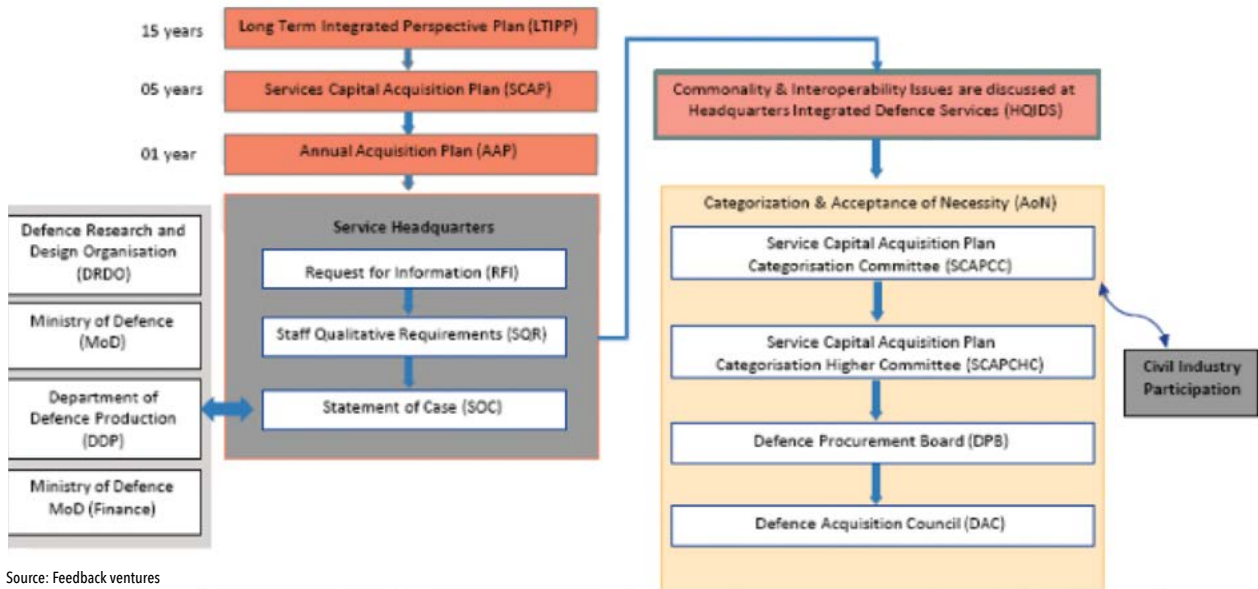
*IC (Indigenous content)

“In defence, one policy cannot fit all”

- CEO of a leading defence company

A strong need was felt to simplify the entire defence procurement procedure, expedite timelines, and to promote India's indigenous industry and platforms.

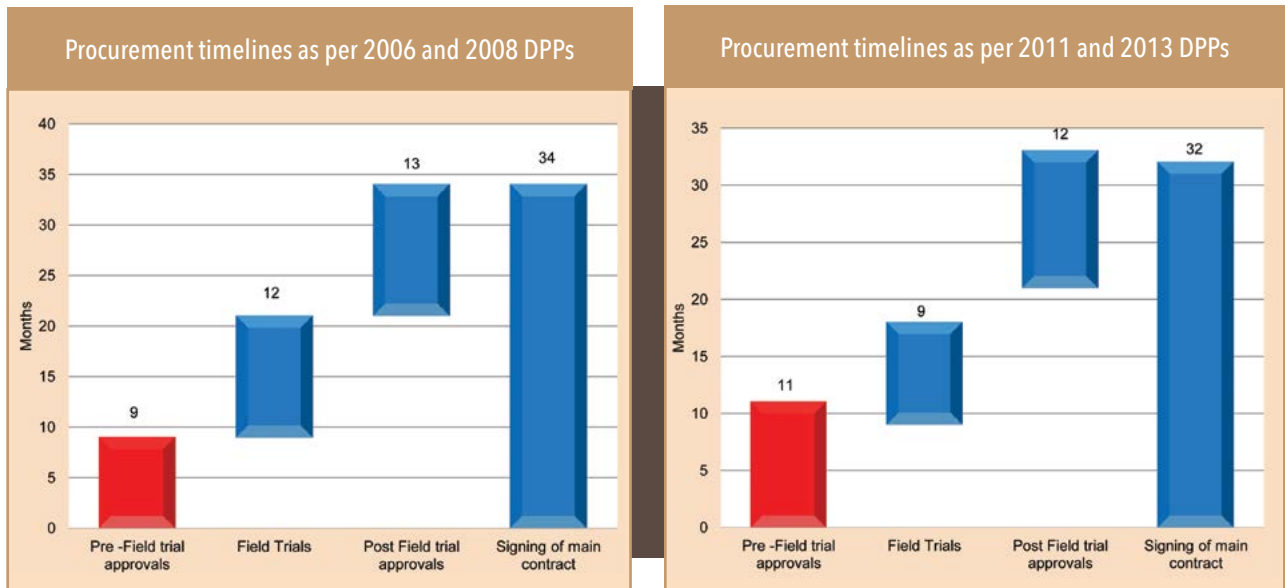
India's defence procurement chain



Source: Feedback ventures

Timelines for placement of orders has reduced modestly since DPP 2006...

Time taken to issue contracts has reduced since the 2006 DPP, as the government attempted to simplify procurement procedures; this is likely to reduce further due to DPP 2016.



Procurement systems in developed countries

Broad overview of Defence procurement policies in US and UK



India



USA

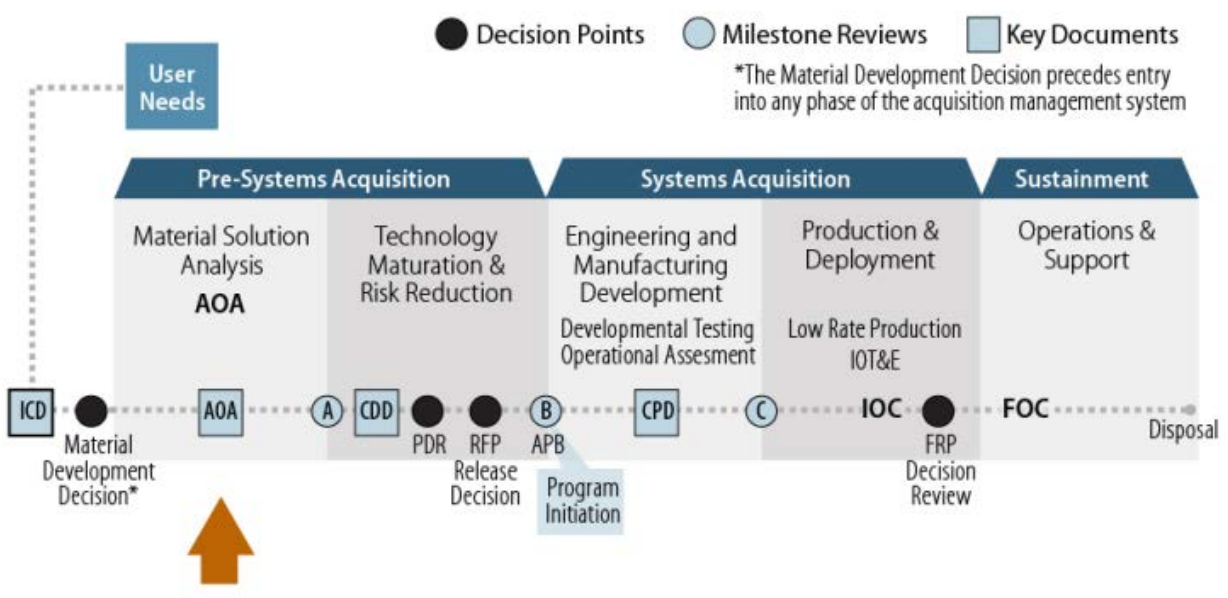


UK

Structure	Decentralised system of procurement involving multi-nodal bodies	Decentralised system governed by various regulations	Centralised procurement through Defence Equipment and Support(DES)
Linking policy planning and budgeting	LTIPP, SCAP, AAP - financial reporting on cash basis	Planning, Programming, Budgeting, and Execution (PPBE) process connected to Joint Capability Integrated Development System(JCIDS) and Defence Acquisition Management System	Four-year plan programme budgeting
Defence procurement regulation	DPP 2016	Governed by three sets of hierarchically organised regulations starting with those applying to all branches of government (Federal Acquisition Regulations or FAR), then those specific to the DoD (DFAR), followed by those specific to its components	Defence and Security Public Contracts Regulation 2011. Defence procurement not regulated and procurement on case-by-case basis
Performance Measurement Work	CAG, outcome goals or performance indicators	Government Accounting Office, GPRA (Government Performance and Results Act, Strategic Plan Goals, Performance Indicators)	NAO (National Audit Office), Strategic Plan Goals, Performance Indicator

US and UK are one of the largest spenders on defence

US Defence Procurement System



Glossary:

ICD- Initial Capabilities Document; AoA- Analysis of Alternatives; CDD- Capability Development Document; PDR- Preliminary Design Review; APB-Acquisition Programme Baseline; CPD- Capability Production Document; IOC- Initial Operating Capability; FOC-(Full Operating Capability)

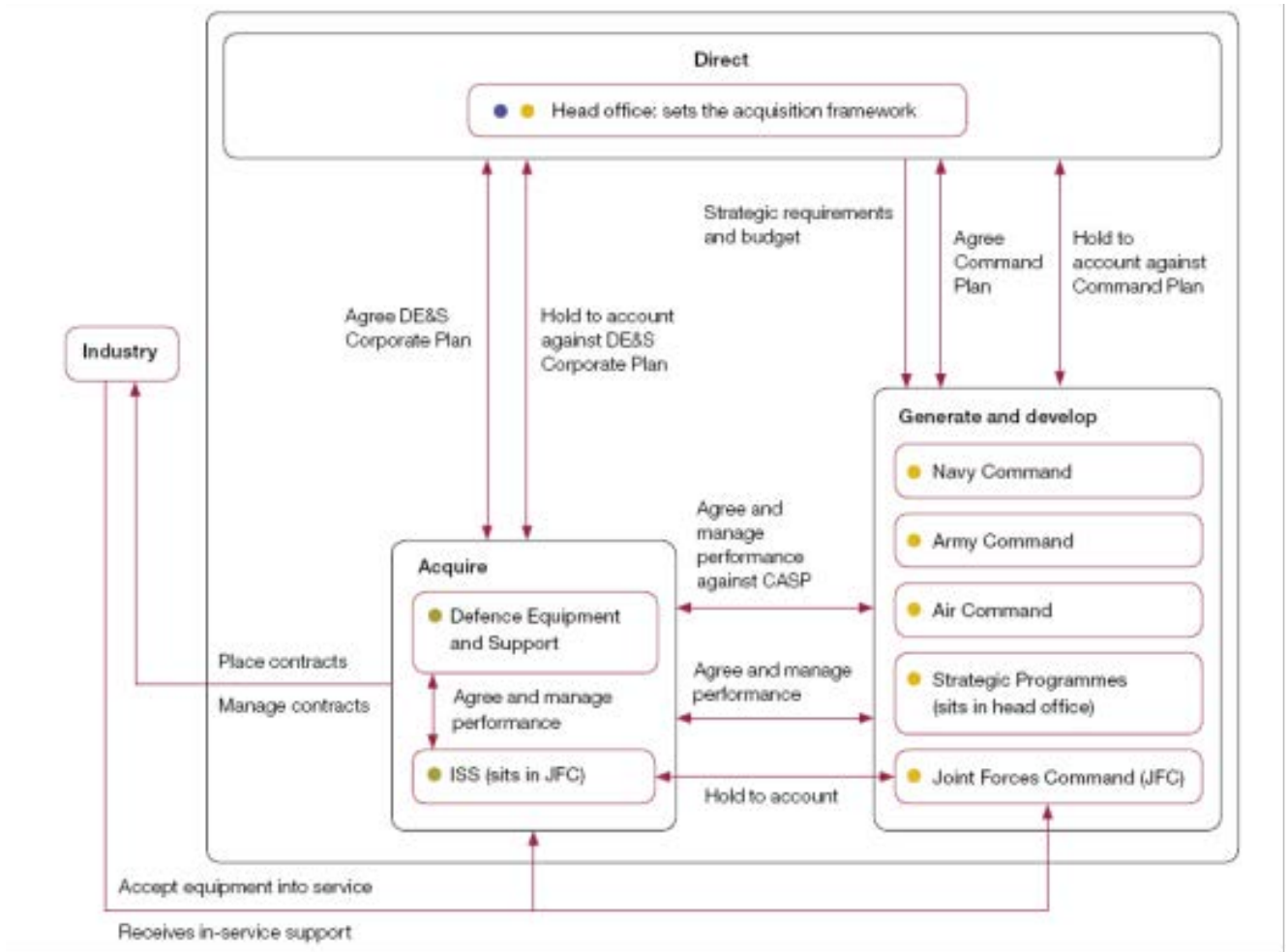
US' defence acquisition largely involves three steps and there are no set timelines for each processes to be completed

- The Joint Capabilities Integration and Development System (JCIDS) – for identifying requirements.
- The Planning, Programming, Budgeting, and Execution System – for allocating resources and budgeting.
- The Defence Acquisition System – for developing and/or buying the item.

UK defence procurement procedure

The acquisition of defence equipment in the UK is based on the interaction between the Head Office, the armed forces (commands), and Defence Equipment and Support (DE&S). The Head Office provides strategic oversight while armed forces communicate their requirement. Defence Equipment and Support (DE&S) plays a critical role in procuring new military equipment, commodities and services, and supporting in-service equipment through life and managing global logistics operations. The Chief of Defence Material (CDM), who leads DE&S as its Chief Executive, is responsible for acquiring (procuring and supporting) equipment, systems and commodities needed to generate military capability.

UK defence procurement procedure



Analysis of both countries' acquisition programmes (US and UK) indicates reforms in defence procurement remain a continuous process. Just like India, US and UK have had their share of difficulty in procurement programmes and cost overruns. Both countries face cost overruns in procurement



Delays are prevalent even in countries with a developed procurement processes

There is huge hue and cry about delays in the procurement of defence systems in India, but even developed countries (with perhaps more sophisticated processes for defence capital-equipment procurement) face problems too.

UK had undertaken 'Successor Submarine Programme' with an objective to replace its operational system of four Vanguard-class submarines. Based on MoD estimates, the cost of building four submarines has increased to £ 26bn in 2010 and £ 31bn in 2015, from an estimated £ 20bn in 2006. Preliminary studies on this programme started in 2007. The order for the submarines was to be placed in 2010, which was subsequently delayed to 2016. Only in July 2016 did the House of Commons approve the project with the delivery of the first submarine slated for 2028.

Similarly, the US has faced significant cost overruns in its ambitious plan of acquiring 2,457 F-35 planes and a

Joint Strike Fighter by 2037. Work on the project began in 1997 and the first test aircraft flew in 2006. However, the first squadron was inducted in the US Air force only in late 2015. The price tag for this project is nearly US\$ 400bn – almost twice the initial estimate. Initially, the country expected these planes to be operational by 2012; later estimates saw the first F-35s fully operational by July 2015, but these too have been delayed.

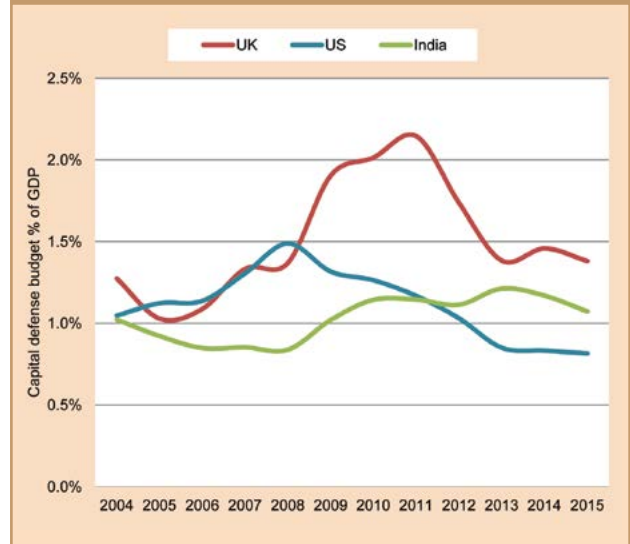
"The Ministry must have a realistic equipment plan if it is to strike a better balance between delivering the capability it requires and the taxpayer funds it has available. However, the Ministry's track record in forecasting accurately the cost of its largest projects hardly inspires confidence. Between 2000 and 2012, the cost of its 69 largest projects ballooned by £ 11bn. Independent analysis in 2009 found that final project costs were typically 40% higher than the Ministry's initial forecasts" – a statement from The Rt Hon Margaret Hodge MP, Chair of the Committee of Public Accounts, USA.

Moving from global to glocal

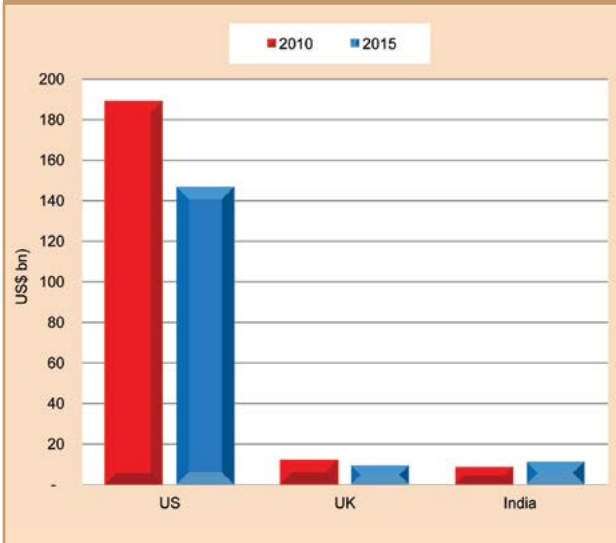
India's capital expenditure as % of GDP is now in line with global averages

Capital defence budgets in developed nations such as North America (US) and United Kingdom (UK) are falling in the past five years. UK's capital budget has shrunk by 25% (2010-15), while US' is down 22%; in the same period, India's spending has increased by 30%. Consequently, India now spends 1.1% of its GDP on defence (capital expenditure ex-land and construction), which is higher than the US (0.8%) and largely in line with that of UK (1.4%).

Capital defence budget as a % of GDP



Capital defence budgets in the US, UK and India



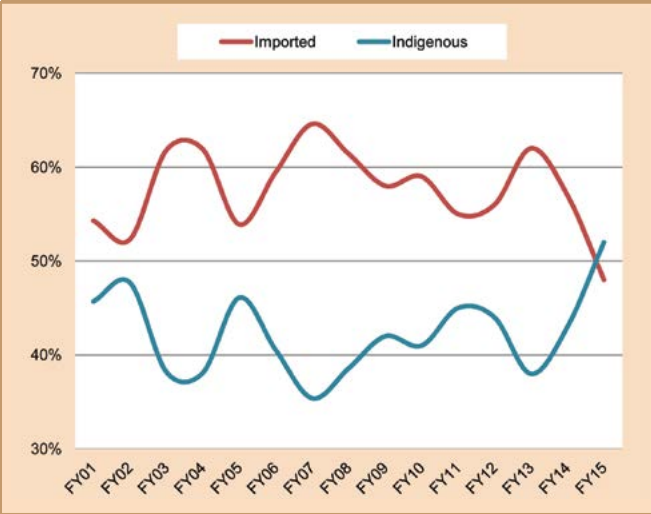
Source: SIPRI, Department of Defence, Ministry of Defence

Capital defence budgets in the US and UK have declined by 25-22% while India's has increased by 30% over 2010-15

India's spend on defence (as % of GDP) is higher than the US and approaching UK's threshold but, India imports ~60% of its defence equipment

Despite the impetus on indigenisation by various DPPs in the past ten years, India continues to rely on imports of defence equipment. Almost 60% of the annual capital budget is towards imports. Key reasons for high imports – India's defence PSUs lack the expertise to manufacture complex systems and private sector participation is nascent. Major projects such as BrahMos, LCA, Long Range Surface to Air Missile (LRSAM) have an import content of 40-65%.

India on an average still imports ~60% of its defence equipment



Import content in major DRDO programmes

Programmes	Import content (%)
Supersonic Cruise Missile, BrahMos	65
LR-SAM	60
MBT Arjun	55
Light Combat Aircraft (LCA)	40
Electronic Warfare Systems	5 - 30
Sonars	5 - 30
Airborne Early Warning & Control (AEW&C) System (excluding Aircraft)	16
Akash Missile	10

Recent policy initiatives are conducive towards increased local participation

In order to correct this anomaly, the current government has taken steps towards changes to procurement procedures – by introducing new category IDDM, revision of the defence products list, issuing industrial licenses to the private sector, and relaxing FDI norms.

Group-wise exposure

In the parlance of the global defence supply-chain, India's private sector companies manufacturing sub-components and sub-systems for local defence PSUs or global majors can be classified as tier-2 and tier-3 vendors. Only select companies (such as L&T, Tata Advanced Systems, Dynamatic Technologies, and Data Patterns) are tier-1 vendors. The natural line of progression would be for tier-1 vendors to graduate and become system integrators of prime OEMs, which design and develop complex systems, while tier-2/3 vendors can increase their capability to become tier-1 vendors.

Within private sector groups, Tata, L&T, Godrej, Bharat Forge, and Mahindra have developed competencies across multiple segments of the defence sector.

LIST OF MAJOR COMPANIES IN INDIA'S DEFENCE SECTOR MAPPED TO THEIR LINE OF BUSINESSES

GROUP	SUBSIDIARY	SCOPE OF WORK
Tata	Tata Motors	Armoured vehicles
	Tata Power SED	C3i, Howitzers, Optronics
	Tata Advanced Systems	Missile systems, Aerospace, Radar, Optronics, UAV's, Command and Control
	Tata Consultancy Services	Aerodynamics, Tool design & manufacturing engineering
	Tata Advanced Materials	Machining, Tooling, Assembly of Composite material sub systems
	Tata Elxsi	Product engineering and R&D services, Industrial designs, Visualization
	TAL Manufacturing Solutions	Composite machining, Robotics
	Tata Technologies	Aero structures, design and manufacturing engineering
	Tata Industrial Services	Offset solutions
	Titan	Precision engineering and components and sub-assemblies
	Nelco	Border security
	Avana Integrated Systems	Border management

GROUP	SUBSIDIARY	SCOPE OF WORK
L&T	L&T (Parent)	Strategic electronics, Flight systems, Weapon and Land systems
	L&T Shipbuilding	Surface ships and conventional submarines
	L&T Cassadian	Electronic warfare, Radar, Military avionics
	Spectrum Infotech	Avionics
Godrej	Godrej & Boyce	Liquid and Solid booster technology based engine manufacturing
		Precision engineered products
		Sub assemblies for Attack Light Helicopter
		High strength rubber components and composite alloys
M&M	Mahindra Defence Systems & Defence Land Systems	Armed and Armoured vehicles
	Mahindra Aerospace	Aerostructures for Airbus Panther range of Helicopters
	Mahindra-BAE (JV)	Assembly, Integration and Test facility for the M-777 Ultralight Howitzers
	Mahindra Telephonics Integrated Systems	Radars, Identification Friend or Foe, Communication, Border security
	Mahindra Defence Naval Systems	Torpedo launchers, Sea mine console, Influence ground mine shell, Igniter casings, Sonar and Radar domes
Kalyani Group	Bharat Forge	Forged components for Aerospace and Defense applications
	Kalyani Strategic Systems	Artillery systems, Armoured fighting vehicles, Military vehicles, Precision ammunition, Homeland security
	BF Elbit Advanced Systems	Artillery systems
	Kalyani Rafael Advanced Systems	Missile technology, Remote weapon systems, Advanced armour systems
	Analogic Controls	Defense electronics - On Board and Ground support systems
Dynamatic Technologies	Dynamatic-Oldland Aerospace	Airframe structures for Sukhoi-30, Ailerons & Wing Flaps for IJT
Samtel	Samtel Avionics	Multi Function displays, Helmet mounted displays, Navigation equipment
	Samtel HAL Display Systems	Multi Function Displays for Su-30 MKI
Others	Walchandnagar Industries	Combustion Chambers, Aluminum Alloy Bridges, Launching Systems, Motor casings
	Astra Microwave	Radar sub systems, Telemetry for LCA and IJT, Guidance and Proximity sub systems for Missiles
	Data Patterns	Radar sub systems, Electronic warfare, Avionics
	Alpha Tocol	Sub assemblies for Su-30, LCA and IJT
	Centum Electronics	Electronics for Inertial Systems, Missile Interface Units, Laser Receivers
	Lakshmi Machine Works	Milling and precision machining
	Zen technologies	Training simulators
	VEM technologies	RF and IIR Seekers, Radar power supply unit and other sub components for Missiles, Helicopters and Aircrafts
	Reliance Defence	Ship building and helicopter manufacturing

Potential beneficiaries of localisation

Ground View undertook case studies across three segments of the defence industry – defence PSU, private sector, and MNC.



Defence PSUs – Hindustan Aeronautics (HAL): HAL will be a beneficiary of the government’s focus to manufacture complex aircrafts indigenously. Over the past 15 years, HAL has developed outsourcing capabilities, allowing it to migrate from a mere assembler of aircrafts to a co-developer, and now a prime OEM.



Private sector – Tata Power SED: Tata Power’s four-decade-old Strategic Electronics Division is a leading sub-system supplier to the Indian armed forces. However, over the next five years, this division should transform into a system integrator with marquee projects such as howitzer guns and control and communication projects such as Tactical Communication System and Battlefield Management System.



MNC – Safran India: Safran (France) has been present in India for more than 60 years. In the 1950s, it started off by selling equipment for airplanes and helicopters, followed by major sub-components for Jaguar and Mirage aircrafts in 1970-1980. In 2004, engines for the Hawk Trainer were manufactured by HAL under license; similarly, in 2006, Safran Helicopter Engines (a subsidiary of Safran), was selected to co-develop and co-manufacture engines for HAL’s Advanced Light Helicopter (ALH). Safran will be a key beneficiary of future fighter aircraft and helicopter programmes adopted by India – such as Rafale and Kamov 226.



Top: HAL's LCH Helicopter

Middle: Tata Power's TOWED gun

Bottom: Safran's Shakti engine

Hindustan Aeronautics Limited (HAL) – **ELEPHANTS CAN DANCE!**

Ground View met with the management of the company and visited its aircraft-manufacturing complex in Nasik, not only to understand HAL's journey, but also its future strategies in a policy environment that is skewed towards the private sector.

What does it do?

HAL is India's premier government-owned defence aircraft manufacturer. Over 75 years, it graduated from being an assembler of aircrafts (in 1940s with Harlow PC 5A), to a joint developer (in 2000 with Sukhoi-30 Mk1). It is now an independent design and manufacturing OEM (in 2014 with LCA), which has enabled it to increase its know-how from trainer aircrafts to fighter aircrafts and attach helicopters. HAL has produced over 3,800 aircraft and over 4,500 engines, including 15 types of indigenous designs. It is also a leading example of vendor development and outsourcing of key processes in the defence sector.

Outsourcing has been a key to HAL's success

The world over, aircraft manufacturers such as Boeing and Airbus are mainly integrators and do not build the plane themselves. 40,000+ components go into larger fighter aircrafts such as Sukhoi-30 (Su-30) while 20,000-25,000 components are involved in making a helicopter. Hence, it is impractical for OEMs to manufacture all components in-house. Before the 2000-10, HAL had developed in-house capabilities for critical equipment such as forgings, aero structures, empennages, and engine parts – as the Indian industry was not mature enough to manufacture aeronautical-grade components. However, with the Sukhoi program, this changed – and the company adopted the outsourcing model. In case of Su-30, HAL outsources 37% to domestic vendors and imports 40% from its Russian and other foreign counterparts. HAL is now outsourcing module assemblies starting with the LCA, which is a step up from merely outsourcing component manufacturing.

The road from an assembler to a developer

1940	Hindustan Aircraft Co incorporated by Shri Walchand Hirachand
1942	Govt of India takes over company. Starts manufacturing of Harlow Trainer, Cutiss Hawk Fighter & Vultee Bomber
1950s	Designed and produced HT-2 trainer aircraft, HF-24 fighter (Marut), HJT-16 Basic trainer
1964	Through amalgamation of AIL started manufacturing MiG 21
1970s	Manufacture of Chetak & Cheetah helicopters under licence from SNIAS, France. Design and development of components such as radio components, under carriage, protection units,
1979	Manufacture of Jaguar in license with British Aerospace
1982	Licence production of MiG-27M and MiG-21 BIS from Russia
1998	New division for industrial gas turbines
2001	Licence manufacture of Sukhoi 30MK1. First indigenous helicopter put in service - Advanced Light Helicopter (ALH)
2007	New division for Composite manufacturing
2014	Started manufacturing LCA-Tejas; 1st in house development

List of TIER-I & II vendors of HAL

Sl. No.	Name of the vendor	Division	Nature of Products supplied	Tier
1	Merlin Hawk Aerospace Pvt. Ltd.	Helicopter	Wire Harness Assemblies	I
2	Amphenol Interconnect Pvt. Ltd.	Helicopter	Wire Harness Assemblies	I
3	S L N TECHNOLOGIES	Korwa	SSFDR FOR SU-30 MKI & test Equipments	I
4	Datasol Innovative labs	Helicopter	Standby instrument systems	I
5	Bharat Electronics Limited	Nasik, LCA, Hyderabad	Transmitter units, RWR-118 System, Head Up Display	I
6	Dynamic Technologies Ltd.	Helicopter, IJT	Wing & Rear Fuselage Assembly, work Package- Stabilizer , Slat work package and Fabrication & supply of Fins & Air Brake Assembly	I
7	Alpha Tocol Engineering Services Pvt. Ltd	Nasik, IJT, Helicopter	Assembly and Supply of Rudder/ Flaperon work Package of SU-30 MKI and Machining & Supply of under Carriage Door Assembly of Su-30	II
8	Hemkund Engineering Techniques	IJT	IJT Rudder and Trim Tab Assembly	II
9	Datapattern	Helicopter, LCA	Smart Cockpit Display systems, IFF MKXII, Dual Channel Receiver	I
10	Taneja Aerospace and Aviation Limited	IJT, Helicopter	IJT Horizontal stabilizer Assembly	I
11	Aerospace Engineers	Helicopter, Koraput	Hose Assemblies & Machined Parts	II
12	Bharat Dynamics Limited	LCA, Helicopter	Counter Measure Dispensing System	I
13	Tata Advance Material Ltd.	CMD	Standard parts	II
14	Kirloskar Pneumatic Co. Ltd.	Nasik	Air charging vehicle	I
15	Godrej & Boyce	Engine, Overhaul, Lucknow	LCA Actuators, Complex & Major Component machining	II
16	Larsen & Toubro limited	LCA, CMD	Machining & supply of Engine Mount Assembly and ALH composite components	II
17	Samtel HAL Display Systems	Korwa, Nasik, MCSRDC	Multi Functional Display systems	I

Unlikely to face competition from the private sector in the near term

Unlike other defence PSUs, which could potentially face existential risks in the next five years due to private sector competition, HAL is on more firm ground. Two reasons why it will probably not face tough competition:

- 1) The private sector lacks the capability to manage complex supply chains for aircrafts.
- 2) Since the volumes are limited globally, there are not more than 4-5 OEM's.

HAL's key programs

DESIGN & DEVELOPMENT	UPGRADE PROGRAMMES	OVERHAUL PROGRAMMES	PRODUCTION
TEJAS' Light Combat Aircraft (LCA) Single Seater, Trainer & Naval Variants	FIGHTER	Su - 30 MKI	Dhruv' ALH - multi role, multi-mission helicopter for military including weaponised version and civil roles
Intermediate Jet Trainer (IJT)	Mirage 2000	Hawk MK132, Jaguar	Tejas Light Combat Aircraft (LCA)
Light Combat Helicopter (LCH)	Jaguar Darin III	Mirage 2000	Intermediate Jet Trainer (IJT)
Light Utility Helicopter (LUH)	MiG - 27M	Kiran HJT - 16	Su-30MKI - Two seater supersonic, multi-role fighter aircraft
Basic Turboprop Trainer HTT - 40	MiG - 21 Bison"	Do - 228, An -32	Hawk Mk132 - Advanced Jet Trainer
Unmanned Aerial Vehical (UAV)	TRANSPORT	HS -748, ALH Dhruv	Do-228 - Multi-role, Multi mission, Light Transport Aircraft
Fifth Generation Fighter Aircraft (FGFA)	Do-228"	Chetak / Cheetah / Lancer	Chetak / Cheetah / Lancer / Cheetal Helicopters
Multirole Transport Aircraft (MTA)		MiG - 21 series, MiG - 27M	Lakshya' Pilotless Target Aircraft (PTA)



Sukhoi-30

The development of India's current mainstay fighter aircraft Sukhoi-30 started in 2000 under license from Russia. The total order, of 272 aircrafts is expected to be completed by 2019. HAL delivered its first indigenously assembled aircraft in 2004. By 2010, it had achieved 100% indigenisation of the aircraft - from production of raw material to the final assembly. HAL derives around 30% of its full-year revenues from the Su-30.

How is the Sukhoi-30 Mk1 built?

Equipment	Factory	Total # of components
Power plant (Engine)	Koraput	5,588
Hydraulics	Lucknow	10,914
Avionics, Radar & Radio	Korwa & Hyderabad	27,932
Airframe	Nasik	38,513
Final assembly	Nasik	82,947

Source: Company



Advanced Light Helicopter (ALH)

HAL absorbed technology for helicopters in the 1960s from Airbus and with that know-how, in 1986, it launched its ALH Program (codenamed Dhruv); it was able to commercialize these helicopters in 2001. ALH is currently the backbone of the armed forces. HAL manufactures 20 units per annum and is awaiting a large order of 400-500 helicopters in FY17-18. It has also been exporting ALH to Nepal, Ecuador, Mauritius, and Maldives.

Light Combat Aircraft (LCA)

FUTURE PROGRAMS



LCA is the first fighter aircraft to have been designed, developed, and manufactured in India. In fact, it is one of first fixed-wing programmes in the world. The Aeronautical Development Agency (ADA) worked on its design and development, while HAL is the nominated manufacturing agency. For the LCA, it has taken a step further by outsourcing line replaceable units (LRUs) as against its earlier practice of just component outsourcing (60% by value of the aircraft and 75% by number of components). HAL currently has an order for 20 aircrafts from the air-force and 50 aircrafts from the navy. There is also a follow-up order of 120 aircrafts from the air-force for Mark 1A, which would include an upgraded electronic warfare suite, air-to-air refueling and active electronically scanned array (AESA) radar. HAL has already delivered three aircrafts to the air-force and is in the process of stabilising the landing gear technology for naval aircraft. It expects to begin production of the upgraded Mark-1A aircraft by FY19. The LCA programme will be the key revenue driver for HAL once the Su-30 Mk1 project concludes in FY19.

Specification	Measurement
Length	13.2 m
Span	8.2 m
Height	4.4 m
Max Take of Weight	13.5 t
Payload	5.3 t
Speed	1.6 M
Radius of Action	300 km
Takeoff distance	1700 m
Landing distance	1300 m
Service Ceiling	16 km
Engine	General Electric GE 404F2/J-IN20
Max thrust	5618 kgf

Source: Company

Light Combat Helicopter (LCH)

FUTURE PROGRAMS



The LCH is a twin engine 5.8-tonne-class designed and developed product of HAL. The LCH is a derivation of ALH (the Kargil war highlighted the need for an attack helicopter). The engine (codename: Shakti) for the helicopter has been jointly developed by HAL and Turbomeca, France. The helicopter is currently in the prototype testing phase. The latest test was conducted in Rajasthan for air-to-air ammunition. The helicopter has passed all its weather trials and should enter commercial production in the next 12-18 months. HAL currently has an order for 114 aircrafts from the army and 65 from the airforce.

Specification	Measurement
Length	15.8 m
Rotor diameter	13.3 m
Height	4.7 m
MTOW	5.5 t
Max. speed	280 Kmph
Range	700 Km
Service Ceiling	6.5 km
Climb rate	5 m/s
Engine	2 x HAL/Turbomeca (Shakti) engines
Power	895 kW
Guns	1 x 20 mm M621 cannon
Rockets	4 x 70/80 mm
Missiles	4 x two round Mistral air to air missiles or 2 x four round Helina anti tank missiles
Bombs	4 x 250kg bombs

Source: Company



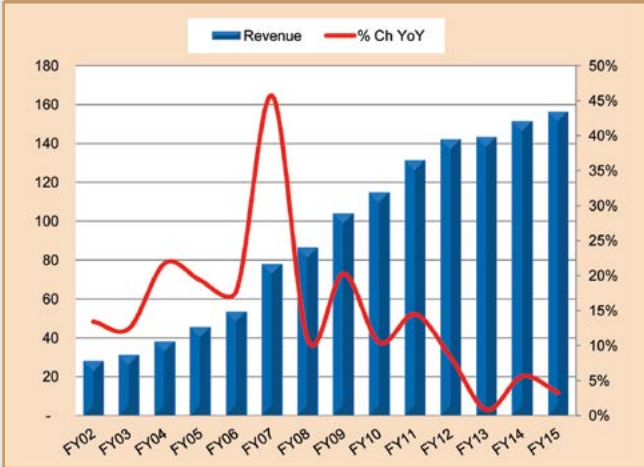
FUTURE PROGRAMS

Fifth Generation Fighter Aircraft (FGFA)

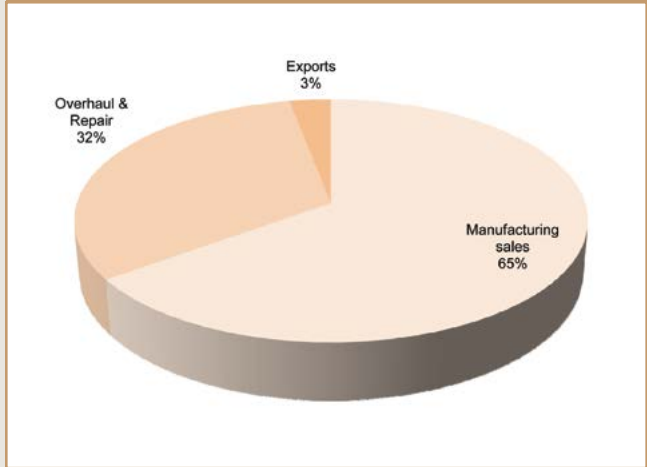
India and Sukhoi Corporation (Russia) are jointly developing the fifth-generation fighter. The total estimated cost of developing prototypes is likely to be US\$ 12bn and will be borne 50:50 by the two agencies. This project is currently in a very nascent stage and will take at least 8-10 years to fructify into a commercial order for HAL.

Financial analysis

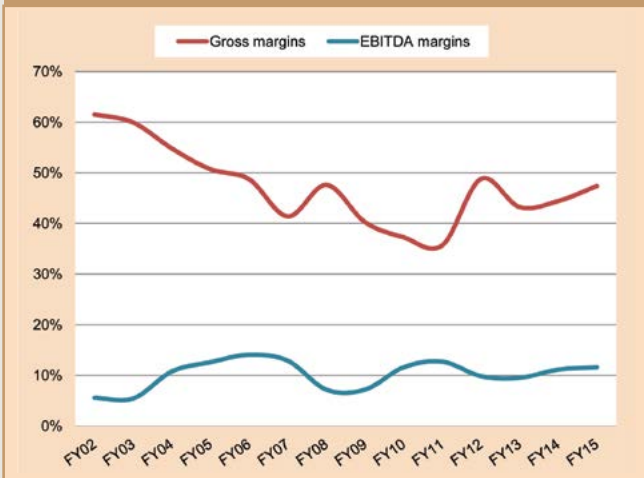
HAL: Sales CAGR of 14% in FY02-15



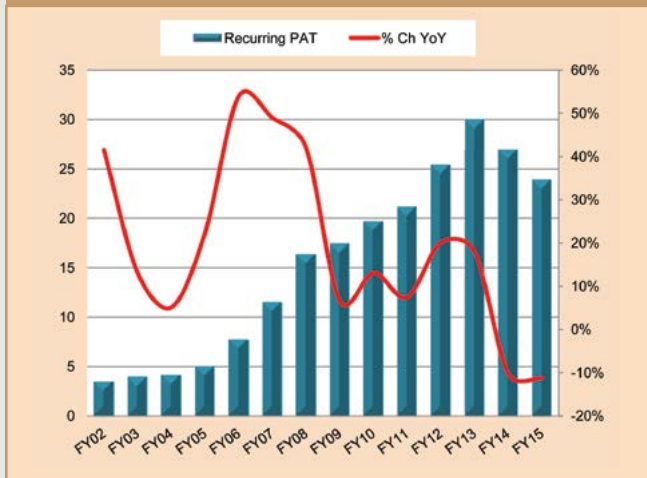
HAL derives +30% of its revenues from repair and overhauling of aircrafts



Increasing localisation on the Su-30 programme has helped HAL expand its margins



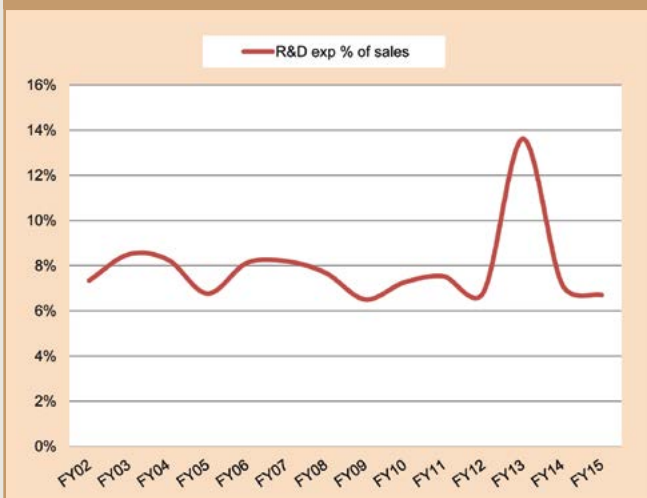
HAL's PAT CAGR in FY02-15 was 18%



High level of customer advances helps HAL maintain negative working capital



HAL invests 7-8% of its revenues on R&D



Key challenges

- **Lack of continuity of programs:** One of the major issues faced by HAL is the lack of continuity of projects. Given the prolonged period taken by the dispensation, and delays related to manufacturing an aircraft, the risk of technology obsolescence leads HAL's clients to place only limited quantity of orders. Since HAL has to invest in setting up a dedicated manufacturing and assembly

line for each product, the cost is prohibitive and the returns are low.

- **Bulk ordering required to provide for revenue growth visibility:** As the average lead time to manufacture a aircraft/helicopters is 24-36 months, visibility of orders is a must. A break in between orders, will require HAL to restart its assembly line all over again leading to time lost to ramp up production back to the original levels.

CASE STUDY - 2

Tata Power SED – **UPCOMING 'POWER' HOUSE**

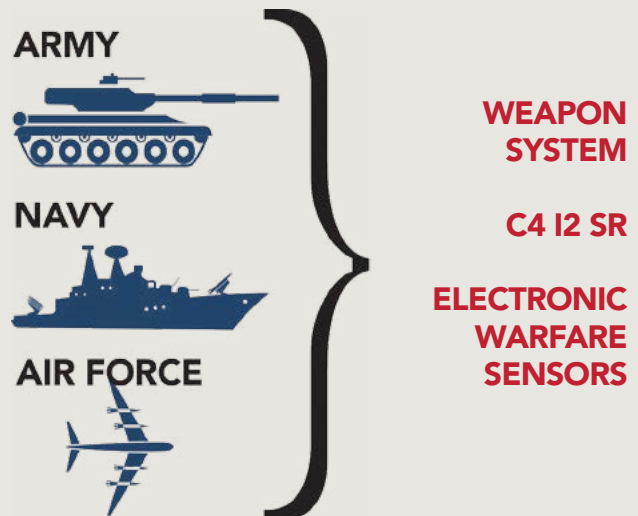
Ground view met with the management of Tata Power SED (SED) as it emerges to be one of key beneficiaries of the growing investments in the sector. SED increased its presence to becoming an OEM for howitzer, armoured vehicles, and complex control command and communication projects from being a sub-system supplier for missile, submarine, and electronic warfare programmes.

History

For close to four decades, The Tata Power Company Limited through its Strategic Engineering Division (Tata Power SED) has been a leading private-sector player in the indigenous design, development, production, integration, supply and life-cycle support of mission critical defence systems of strategic importance. During this period, the division has partnered the Ministry of Defence (MoD), the armed forces, DPSUs, and DRDO in the development & supply of state-of-the-art systems and emerged as a prime contractor to MoD for indigenous defence

production when it secured orders for Pinaka Multi Barrel Rocket Launcher, Akash Army Launcher and Integrated Electronic Warfare System for the Indian Army and for the Akash Air Force Launcher, COTS-based Automatic Data Handling System for Air Defence and Modernisation of Airfield Infrastructure (MAFI) for the Indian Air Force.

Product portfolio of Tata Power SED



Future growth prospects

Four projects that will most likely transform SED into a system integrator

Tactical Communication Systems (TCS): In consortium with L&T and HCL, SED is bidding for the US\$ 2.5bn TCS project. TCS is a communication system that the army will use under offensive terrain. This project will make progress as Ministry of Defence is expected to release funds for the prototype in FY17. The prototype building and approval will take 24-30 months and the final order is expected to be awarded by FY21. SED's consortium is competing with Bharat Electronics in this project.

Battlefield Management System (BMS): The BMS consists of a wireless network that links digital devices carried by combat soldiers, interlinking them, their commanders, and a range of battlefield sensors. This provides a common battle picture to each individual. Software Defined Radio (SDR) is the key technology for this project – SED has technology tie ups with global companies such as Rockwell Collins, RNS, and Thales to source the SDR. In

a consortium with L&T, SED is bidding for this US\$ 6bn project. Here also it competes with Bharat Electronics. Order for the prototype building for BMS is expected in FY18.

Mounted gun howitzer programme: The management expects the RFP for the Rs 160bn project, which envisages manufacturing of 814 howitzer guns mounted on an all-terrain truck, to be published in 2HFY17, after which it will take at least 36 months for the final order to be placed. In this project, SED competes with Bharat Forge-Elbit (Israel) and L&T-Nextar (France).

Optronics: Optronics offers the most near-term order opportunity for SED. The company has recently been qualified to manufacture hand held thermal imagers (HHTIs). This will also allow SED to compete in orders for passive night-vision devices (PNVDs), which until now was a nominated area for Bharat Electronics. India is expected to procure US\$ 4bn (Rs 300bn) of PNVDs over the next five years.

Financials of Tata Power SED

(Rs mn)	FY05	FY06	FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15
Order backlog	658	2,000	2,000	1,760	2,820	1,980	15,000	21,627	27,700	24,000	-
Order inflows	-	1,724	510	308	2,070	385	14,427	9,377	9,000	-	-
Revenue	621	382	510	548	1,010	1,225	1,407	2,750	2,927	3,353	5,305
Revenue growth (% YoY)	-38%	34%	8%	84%	21%	15%	95%	6%	15%	58%	
R&D Expenses	67	57	49	34	29	15	81	136	261	320	453
R&D % of sales	11%	15%	10%	6%	3%	1%	6%	5%	9%	10%	9%

Management expects both TCS and BMS final orders to be awarded by FY21-22

Safran India – Collaborative growth

Ground view met with the management of Safran India, a multinational company with French origins. Globally, Safran (parent company) is a leader in helicopter turbine engines, commercial aircraft engines, helicopter flight controls, and landing gears. Safran should be one of the few MNC defence companies that stands to benefit from local manufacturing capabilities, particularly in helicopter engines.

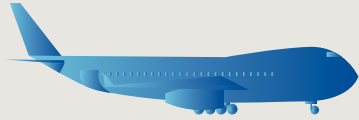
History of Safran in India

Safran has been present in India for the more than 60 years. In the 1950s it started off by sale of equipment for airplanes and helicopters, followed by major sub components for Jaguar and Mirage aircrafts in 1970-1980. In 2004, HAL made engines for the Hawk trainer under license; similarly, in 2006 Safran Helicopter Engines (subsidiary of Safran) was selected to co-develop and co-manufacture engines for HAL's Advanced Light Helicopter (ALH).

What does it do currently?

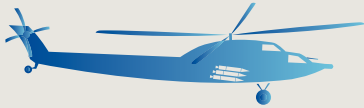
Like its parent, Safran India operates across three segments viz. defence, commercial aerospace, and security. It has 2,500 employees – the highest in any country in Asia. Currently, Safran uses India as an engineering centre and also has three manufacturing units for CFM engine parts, smart cards, and co-manufactures engines for ALH with HAL.

1950	Safarn's presence in India starts with the sale of equipment for areoplanes and helicopters
1962	Turbomeca's Atouste engine is built under license in India for the Chetak (Alouette III) and Cheetah (Lama) helicopters
1975	India produces Snecma's Viking rocket engine under license for domestic launch vehicles
1978	Turbomeca's adour turboshaft engine is produced under license by HAL for Jaguar strike aircraft
1984	Delivery of first Mirage 2000 powered by Snecma's M53 engine
1990	Safran opens a office in New Delhi
1996	Creation of Smart Chip/ Syscom in New Delhi
2002	Creation of Safran Engineering Services India
2003	Turbomeca is selected by HAL to power the Dhruv with Shakti engine
2004	Turbomeca's Adour 871 engine is produced under license by HAL for Hawk trainer aircraft
2005	Creation of Snecma HAL Aerospace, a joint venture between Snecma (Safran) and Hindustan Aeronautics (HAL) in Bengaluru
2006	Turbomeca is selected by HAL to power the Light Combat Helicopter (LCH) with Shakti engine
2009	Creation of Turbomeca India
2010	Opening of the CFM Training center in Hyderabad Morpoho chosen to participate in the Indian government's Aadhar program
2013	Creation of Sagem Services in India
2014	Turbomeca Ardiden 1U is selected to power Light Combat Helicopter (LUHI) being developed by HAL
2015	As of late November, the Aadhar program had issued more than 928 million unique ID numbers



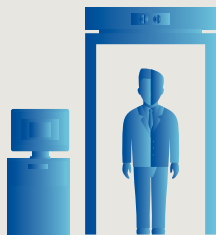
Commercial aerospace:

Safran is global leader in engines for commercial aircrafts. CFM international, a JV of Safran Aircraft Engines and GE, has sold more than 700 engines in India. In addition, Safran is also a leader in landing gears, wheels, carbon brakes, and electrical wiring interconnection systems for aircrafts. This segment remains a majority contributor to revenues for the company in India.



Defence:

The key product that Safran supplies/develops/jointly manufactures in this segment is the helicopter engine for HAL. Through its subsidiary, Safran Electronics & Defence, is also a leading supplier of avionics such as navigation systems, flight control systems, and optronics.



Security:

With more than 1,500 employees, security is one of Safran's main businesses in India. The group is a key partner for the government's Aadhaar scheme. Safran also operates South Asia's largest smart card manufacturing facility in India. Baggage screening is another solution that Safran provides in this segment. Delhi, Mumbai, and Bangalore airports use Safran's computer tomography screening solutions.

Where does Safran stand on developing local manufacturing capabilities?

Safran currently has three operational manufacturing plants: (1) CFM engine parts, (2) smart cards, and (3) a plant with HAL to manufacture the Shakti engines for ALH. Going forward, even as the company does not have any concrete plans to set up new facilities, it would look at investing in sub-assemblies for future projects such as Rafale aircraft and Kamov 226.

Future growth prospects

- **Light combat helicopter:** The LCH will use the Shakti engine that Safran jointly manufactures with HAL. HAL has orders to manufacture ~180 helicopters (65 for the air-force and 114 for the army). This would necessitate a requirement of 350+ engines and spares. HAL expects the final operational clearance for this project in FY17 followed by a commercial order in FY18. In addition, HAL also expects to export the LCH to South East Asian countries.
- **Rafale fighter aircraft:** India proposes to buy 36 aircrafts from Rafale, France, with an option to buy another 36. Safran supplies components that account for 1/3rd of the value of the aircraft. Safran supplies the twin engines (M88) while its other subsidiaries provide power transmission systems, accessory gearbox, and full authority digital engine controls. However, it is still not clear what role Safran India will play in this project.
- **Kamov Ka 226 helicopter:** In 2015, India entered into an arrangement with Russia to locally manufacture the Ka 226 helicopters. Initially, 200 helicopters will be manufactured by HAL. Safran Helicopter Engines supply the engines for this helicopter.
- **Repair and overhaul opportunity:** In the near term, the management of Safran India also believes that repair and overhaul of ALH provides revenue visibility. Safran has previously been part of the Mirage overhaul programme.

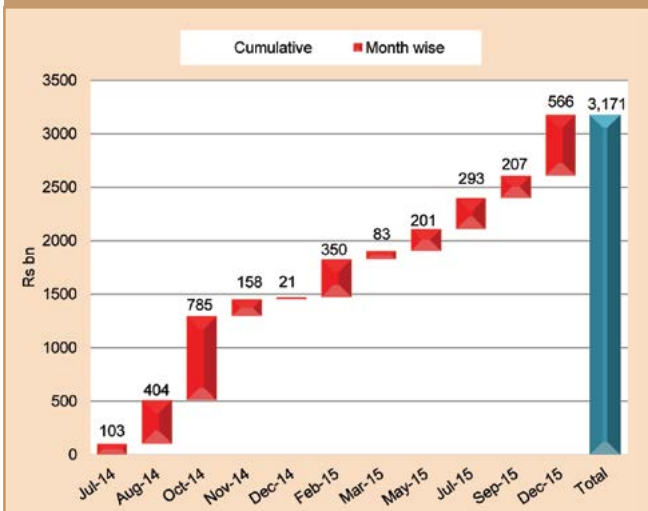
Show me the orders!

DAC approvals suggest pick up in ordering...but,

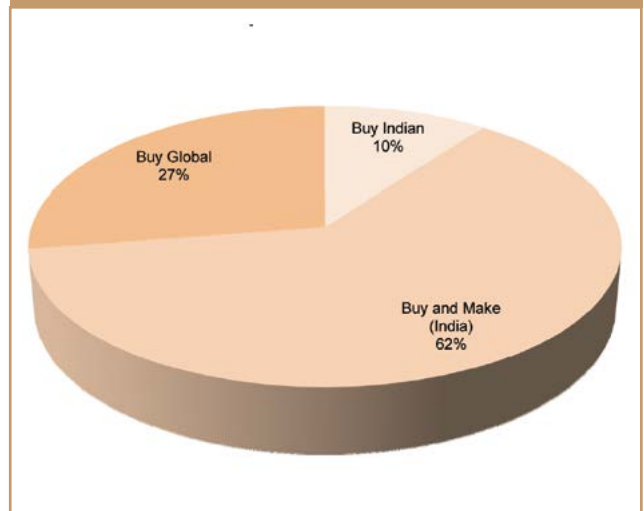
Over the past 24 months, the Defence Acquisition Council (DAC) has approved projects amounting to Rs 3.2tn (US\$ 50bn). This is indicative of the quantum of orders that could be potentially awarded over the next 3-4 years.

to-government deals or nominated orders on public sector units. Landmark projects for the domestic private sector, such as P-75i submarines and mounted howitzer guns, have seen no movement. Request for proposals (RFPs) for these projects have not yet been published.

DAC has approved Rs 3.2tn (US\$ 50bn) of projects since July 2014



>70% of projects approved have a high localised content...

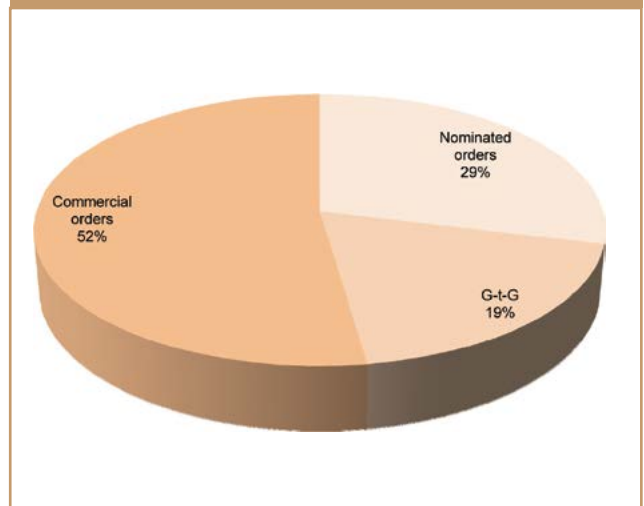


...on-ground feedback suggests otherwise

Interactions with stakeholders indicate that the pace of activity after the DAC approval has been slower and has not met industry expectations. Less than 10% of the projects that have been approved in the past two years have been awarded. Another 15% are on the verge of being awarded.

72% of the projects approved by the DAC are in the Buy (Indian) and Buy and Make (Indian) categories, which entail a higher indigenous content. However, projects that have progressed and awarded have mainly been government-

...but most orders awarded are either nominated onto PSUs or G-t-G deals



Delays are because of procedural bottlenecks and...

Most delays in ordering continue to remain procedural. Time lost on freezing specs in the RFP, time taken for field trials in a multi-vendor tender, and time spent in the CNC stage are the key bottlenecks in the process. The DPP 2016 has tried to address the issue of delays in floating the RFP by limiting the time between AON and RFP to 6-12 months from the earlier 24 months. However, progress on this front still needs to be seen as the DPP is not yet notified.

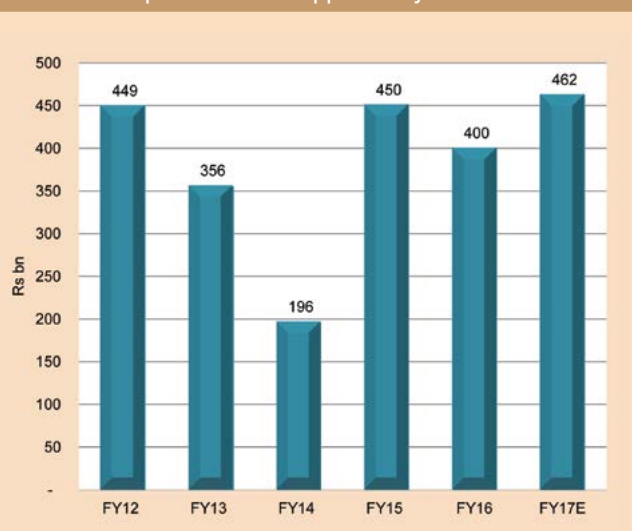
... mainly because India's capital budget for new orders is limited

The primary reason for the delay in project awards is the unavailability of funds. For instance 90% of the FY17 capital budget of the armed forces is allocated towards 'Committed Liabilities' – payment towards orders placed previously – while only 10% of the budget is set aside for 'New Schemes'. For instance, in the FY17 capital budget of Rs 717bn only 10% (Rs 69bn) has been allocated towards new schemes.

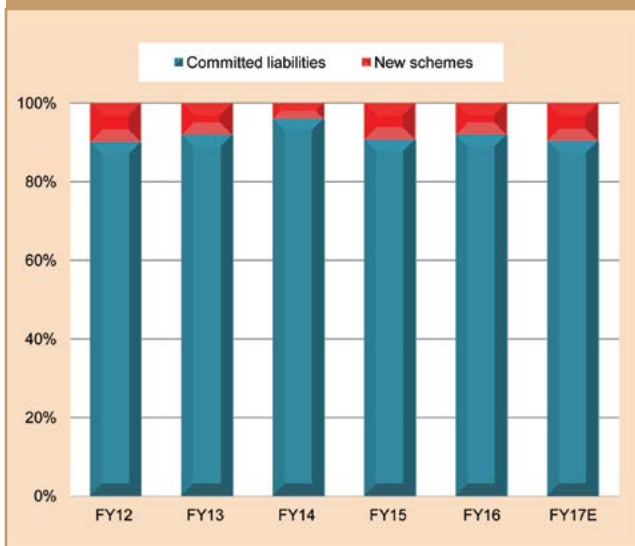
At current pace it would take seven years for all DAC-approved projects to be awarded

The allocation to New Schemes has largely remained flat for the past three years at Rs 60-70bn. This effectively should allow India to place new orders worth Rs 400-450bn (US\$ 7bn) annually assuming a 15% upfront advance. At the current rate, it would take seven years for India to award all the contracts that have been approved by the DAC in the past two years, leave alone the projects that were approved by the previous government.

Assuming 15% advance, orders worth Rs 450bn can be placed annually, which would take seven years to place all orders approved by the DAC



Only 10% of the capital budget is available for 'new schemes'



Ground View conclusion

Based on Ground View's interactions across stakeholders in the defence sector, the key message was that large marquee projects, which are in the public domain and for which various private sector groups are participating, will take at least another 2-3 years to be awarded. In the interim, the focus would be on relatively smaller companies (largely in the unlisted space) that stand to gain from the localisation efforts of the defence PSU's.

ANNEXURE:

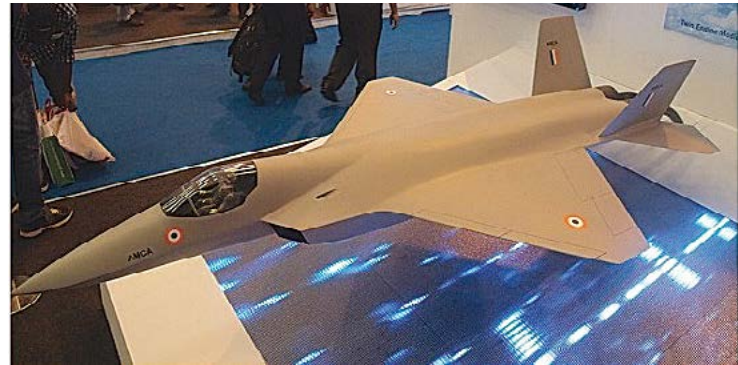
Future programs:

F-INSAS:

Futuristic Infantry Soldier-As-A-System (F-INSAS) is a program of the Indian Army to enhance capabilities of future soldiers. The program is aimed at enhancing the "lethality, survivability, mobility, sustainability and situational awareness" for future soldiers.

F-INSAS is based on five major technologies: modular weapons, body armor and individual equipment, weapon sights and hand-held target acquisition devices, communication equipment to make soldiers capable of transmitting and receiving complex voice, data and video systems, and portable computers in the shape of "wrist displays" for soldiers and "planning boards" for commanders.

The program is spread over the 12th, 13th and 14th five-year plans (2012 to 2027).



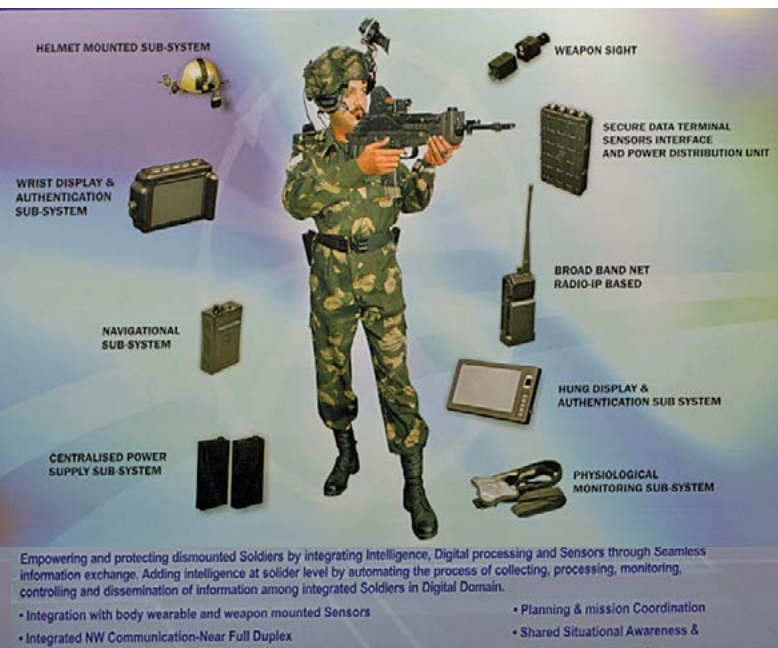
AMCA

The HAL Advanced Medium Combat Aircraft (AMCA) is an Indian programme of a fifth-generation fighter aircraft. It is being developed by Aeronautical Development Agency (ADA) as the design firm with manufacturing carried out by Hindustan Aeronautics Limited (HAL) as the primary contractor and main assembly firm.

It is a single-seat, twin-engine, stealth super manoeuvrable all weather multirole fighter aircraft. Official work started in 2011 and completed in 2014. The first flight is scheduled to occur in 2023–24.

It is a multirole combat aircraft and combines supercruise, stealth, advanced AESA radar, supermaneuverability, and advanced avionics to overcome and suppress previous generation fighter aircraft along with many ground and maritime defences.

It will complement HAL Tejas, Sukhoi/HAL FGFA, the Su-30MKI, and Rafale in the air force service. The AMCA is intended to be the successor to the Sepecat Jaguar, Dassault Mirage 2000, MiG-23 and MiG-27 Bahadur. AMCA would be the third supersonic jet of Indian origin after the HAL Marut and HAL Tejas.



MITHUN CHITILAPPILY

Managing Director, V-Guard

BY AMOL RAO

In the past eight years, since its listing, V-Guard Industries has transformed from a south-Indian electrical-appliances powerhouse to a sizeable pan-India player. In conversation with Ground View, Mr Mithun Chittilappilly, Managing Director and the key reason for the company's stellar performance, talks about the journey so far and the road ahead.



Q : It has been a challenging couple of years for the economy. How has V-Guard's experience been in this period, and what strategy did it adopt to mitigate the negative effects?

We have seen a challenging macro-economic environment over the last two years – with discretionary spending impacted by spiralling inflation and interest rates, which have only recently started to taper off. In this period, we have focused on building internal capability and cost efficiencies. We have significantly improved our capability in product development and supply chain management. We implemented a focused project on cost efficiencies and supply chain management code named Udaan, the results of which we are seeing in the last one or two quarters. While growth in the last two years has been limited compared to previous years' trends, we have been able to expand margins, improve our working capital cycle, and generate strong cash flows. In fact, in Q1 FY17 alone, we generated cash flows from operations of nearly Rs 1bn – this is phenomenal when you consider that FY16 (full year) cash flows were Rs 1.35bn.

Q : The company ended FY16 and started FY17 on a high note with profits and cash flows in excellent shape. What facilitated this performance?

The project Udaan was a key factor in improving cash flow by creating a more scientific inventory-management system – it reduced inventory without affecting availability. We have also shored up our commercial practices, whether it is in terms of filtering existing dealers or in new dealer appointments. We are also improving credit control and incentivising dealers to pay faster and are ensuring better use of schemes and discounts.

Q : Operations outside your bastion of southern India have achieved critical mass and seem to be on a firm footing. Could you share any interesting insights about some of the best and most



The name you can trust

V-Guard Industries is a major electrical appliances manufacturer in India, and the largest in the state of Kerala. It was founded in 1977 by Mr. Kochouseph Chittilappilly as a small voltage-stabilizer manufacturing unit, with operations primarily.

V-GUARD'S PORTFOLIO

- Electronics - Stabilizers, inverters and batteries
- Electricals - Pumps, wires & cables, electrical & solar water heaters, fans, switchgears
- Kitchen appliances - Induction cooktops, mixer grinders.

challenging geographies for you?

We are a 30-year old brand in the south markets, but only a six-year old one in others. We are investing in a strong pan-India distribution network, spread over 29 branches nationwide through a network of over 638 distributors, 5,760 channel partners, and ~25,000+ retailers, majority of which are not based in the south. Our plan is to increase more retailers working under existing distributors, thereby increasing revenue contribution per distributor, which will provide significant scope for expansion of returns on existing investments. East is the best performing geography at present. We are also doing well in UP, which has reached critical scale and is profitable. Most challenging has been west, which we hope to address in the next 4 to 5 years.

Q : V-Guard's product basket has grown steadily over the years. Looking back, which of your product launches have surpassed your expectations?

From our background of being a single product

company, we now have a well-diversified product portfolio. We started the inverter businesses in 2006 and fans in 2008 – and now both are nearly Rs 2bn businesses and profitable. We will continue to launch new products judiciously, testing the product receptiveness first in our home market – Kerala, before extending it to the other southern markets, and finally pan-India. Our next launch lined up for Q2 FY17 is gas stoves, another addition to our kitchen appliance category.

Q : There was a lot of buzz some time back about channel partners in the electrical industry encountering competition from e-tailing operators. Is this a credible threat or has this abated?

The disturbance of MOP distortion in e-tailing has come down significantly. Now price differences are less and it is not impacting us much. We do not expect this channel to contribute significantly to revenues as our products need final installation/ customization depending on user requirement.

Q : After-sales service is something that V-Guard has always been focusing on. Could you talk about some of the initiatives that separate us from our competition? Also, if you could tell us about costs associated with this and how product quality helps to reduce these costs.

We have seen that across categories, the consumer is more receptive to branded products that embody high quality and offer after-sales support. In 2012, we initiated a transformation program called Parivarthan for improving customer service. Before Parivarthan, the entire service operation was

managed by a mix of distributors and franchises and was run on a home-grown rudimentary software package. We have moved to Oracle CRM for managing this and we moved our entire service operation to more professionally-run authorised service providers. We close almost all of our service requests within 48 hours, including changing spare parts. We have an army of 2,500 people attending to service and we have benchmarked ourselves with the best in the consumer durable industry, not only in electrical appliances. We run data analytics to see trends and improve on quality for newer generation of products.

Q : The company is extremely well capitalized at the moment with a strong brand recall and distribution channel. What is the next milestone for V-Guard Industries?

Our business outlook going forward is positive. We will increase our thrust on advertising and brand building to gain market share. We will continue to invest carefully in expanding our distribution network and furthering our channel relationships. Through our sustained investments in people, products, and processes, we are putting in place a solid foundation for sustainable long-term growth. Our cash positive balance sheet offers the flexibility to add new product categories as well as pursue inorganic opportunities. We expect to see an improvement in consumer sentiment in the second half of the year with the 7th Pay Commission hike and better rural incomes on a good monsoon. We have an internal five-year strategic plan and we are on course to achieve it. Our ambition is to be top 1-2 in all the categories that we play in.



Indian Economy – Trend Indicators

Monthly Economic Indicators

Growth Rates (%)	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16
IIP	3.0	2.5	4.2	4.3	6.3	3.7	9.9	-3.4	-0.9	-1.5	2.0	0.3	-1.3	1.2
PMI	51.3	52.6	51.3	52.7	52.3	51.2	50.7	50.3	49.1	51.1	51.1	52.4	50.5	50.7
Core sector	-0.2	4.4	3.0	1.1	2.6	3.2	3.2	-1.3	0.9	2.9	5.7	6.4	8.5	2.8
WPI	-2.4	-2.2	-2.1	-4.0	-5.1	-4.6	-3.7	-2.0	-0.7	-0.9	-1.0	-0.9	0.3	0.8
CPI	4.9	5.0	5.4	3.7	3.7	4.4	5.0	5.4	5.6	5.7	5.3	4.8	5.5	5.8
Money Supply	10.8	10.8	11.0	11.5	11.3	11.0	10.9	10.7	11.0	11.1	11.3	10.3	10.0	10.1
Deposit	10.7	10.8	11.4	11.8	11.9	11.3	11.1	10.4	10.9	11.1	11.0	9.9	9.3	9.5
Credit	9.2	8.4	9.5	9.4	9.0	7.5	9.0	9.8	11.1	11.4	11.6	11.3	9.2	9.8
Exports	-14.0	-20.2	-15.8	-10.3	-20.7	-24.3	-17.5	-24.4	-14.7	-13.6	-5.7	-5.5	-6.7	-0.8
Imports	-7.5	-16.5	-13.4	-10.3	-9.9	-25.4	-21.2	-30.3	-3.9	-11.0	-5.0	-21.6	-23.1	-13.2
Trade deficit (USD Bn)	-11.0	-10.4	-10.8	-12.8	-12.5	-10.5	-9.8	-9.8	-11.7	-7.6	-6.5	-5.1	-4.8	-6.3
Net FDI (USD Bn)	3.3	3.8	1.7	1.7	2.2	2.8	4.9	2.7	3.6	4.1	2.8	1.4	2.0	1.5
FIJ (USD Bn)	4.0	-2.8	-2.0	-0.7	-3.5	-2.4	4.5	-3.8	-2.6	-1.5	-2.4	4.3	1.1	-0.4
ECB (USD Bn)	7.3	2.4	3.2	2.1	0.8	2.6	2.1	3.2	3.0	1.4	1.4	1.5	0.3	1.3
Dollar-Rupee	63.4	63.8	63.7	64.1	66.5	65.6	65.3	66.7	66.2	67.8	68.4	66.2	66.3	67.3
FOREX Reserves (USD Bn)	344.6	352.5	355.2	353.3	355.4	350.0	353.6	351.6	352.1	349.2	346.8	355.6	361.6	360.9

Quarterly Economic Indicators

Balance of Payment (USD Bn)	Q4FY14	Q1FY15	Q2FY15	Q3FY15	Q4FY15	Q1FY16	Q2FY16	Q3FY16	Q4FY16
Exports	83.7	81.7	85.3	79.0	70.8	68.0	67.6	64.9	65.8
Imports	114.3	116.3	123.9	118.3	102.5	102.2	104.7	98.9	90.6
Trade deficit	-30.7	-34.6	-38.6	-39.3	-31.7	-34.2	-37.2	-34.0	-24.8
Net Invisibles	29.3	26.7	28.5	30.9	30.2	28.0	28.6	26.9	24.4
CAD	-1.3	-7.9	-10.1	-8.4	-1.5	-6.1	-8.6	-7.1	-0.3
CAD (% of GDP)	0.3	1.6	2.0	1.7	0.3	1.2	1.7	1.3	0.1
Capital Account	9.2	19.2	16.5	23.6	30.7	18.6	8.1	10.9	3.5
BoP	7.1	11.2	6.9	13.2	30.1	11.4	-0.9	4.1	3.3

GDP and its Components (YoY,%)	Q2FY15	Q3FY15	Q4FY15	Q1FY16	Q2FY16	Q3FY16	Q4FY16
Agriculture & allied activities	2.8	-2.4	-1.7	2.5	2.0	-1.0	2.3
Industry	6.2	3.4	6.9	7.1	8.5	10.3	9.2
Mining & Quarrying	7.0	9.1	10.1	8.5	5.0	7.1	8.6
Manufacturing	5.8	1.7	6.6	7.3	9.2	11.5	9.3
Electricity, Gas & Water Supply	8.8	8.8	4.4	4.0	7.5	5.6	9.3
Services	9.9	11.7	8.3	8.3	7.9	8.5	8.1
Construction	5.3	4.9	2.6	5.6	0.8	4.6	4.5
Trade, Hotel, Transport and Communications	8.4	6.2	13.1	10.0	6.7	9.2	9.9
Finance, Insurance, Real Estate & Business Services	12.7	12.1	9.0	9.3	11.9	10.5	9.1
Community, Social & Personal Services	10.3	25.3	4.1	5.9	6.9	7.2	6.4
GDP at FC	8.1	6.7	6.2	7.2	7.3	6.9	7.4

Annual Economic Indicators and Forecasts

Indicators	Units	FY8	FY9	FY10	FY11	FY12	FY13	FY14	FY15	FY16E	FY17E
Real GDP growth	%	9.3	6.7	8.6	8.9	6.7	4.5	4.7	7.2	6.8	7.5
Agriculture	%	5.8	0.1	0.8	8.6	5.0	1.4	4.7	0.2	2.0	4.0
Industry	%	9.2	4.1	10.2	8.3	6.7	0.9	-0.1	6.6	5.7	6.7
Services	%	10.3	9.4	10.0	9.2	7.1	6.2	6.0	9.4	8.5	8.8
Real GDP	Rs Bn	38966	41587	45161	49185	52475	54821	91698	98271	104953	112825
Real GDP	US\$ Bn	967	908	953	1079	1096	1008	1517	1611	1615	1684
Nominal GDP	Rs Bn	49864	56301	64778	77841	90097	101133	113451	126538	137626	153212
Nominal GDP	US\$ Bn	1237	1229	1367	1707	1881	1859	1876	2074	2117	2287
Population	Mn	1138	1154	1170	1186	1202	1219	1236	1254	1271	1302
Per Capita Income	US\$	1087	1065	1168	1439	1565	1525	1518	1655	1666	1757
WPI (Average)	%	4.7	8.1	3.8	9.6	8.7	7.4	6.0	2.0	-2.0	4.0
CPI (Average)	%	6.4	9.0	12.4	10.4	8.3	10.2	9.5	6.0	5.0	5.0
Money Supply	%	22.1	20.5	19.2	16.2	15.8	13.6	13.5	12.0	12.0	13.0
CRR	%	7.50	5.00	5.75	6.00	4.75	4.00	4.00	4.0	4.0	4.0
Repo rate	%	7.75	5.00	5.00	6.75	8.50	7.50	8.00	7.50	6.75	6.25-6.5
Reverse repo rate	%	6.00	3.50	3.50	5.75	7.50	6.50	7.00	6.50	5.75	5.25-5.5
Bank Deposit growth	%	22.4	19.9	17.2	15.9	13.5	14.4	14.6	11.4	12.0	13.5
Bank Credit growth	%	22.3	17.5	16.9	21.5	17.0	15.0	14.3	9.5	10.0	12.0
Centre Fiscal Deficit	Rs Bn	1437	3370	4140	3736	5160	5209	5245	5107	5351	5339
Centre Fiscal Deficit	% of GDP	2.9	6.0	6.4	4.8	5.7	5.2	4.6	4.1	3.9	3.5
Gross Central Govt Borrowings	Rs Bn	1681	2730	4510	4370	5098	5580	5641	5920	5850	6000
Net Central Govt Borrowings	Rs Bn	1318	2336	3984	3254	4362	4674	4536	4531	4406	4252
State Fiscal Deficit	% of GDP	1.5	2.4	2.9	2.1	1.9	2.0	2.5	2.4	2.0	1.5
Consolidated Fiscal Deficit	% of GDP	4.4	8.4	9.3	6.9	7.6	6.9	7.1	6.6	5.9	5.0
Exports	US\$ Bn	166.2	189.0	182.4	251.1	309.8	306.6	318.6	316.7	270.0	283.5
YoY Growth	%	28.9	13.7	-3.5	37.6	23.4	-1.0	3.9	-0.6	-14.8	5.0
Imports	US\$ Bn	257.6	308.5	300.6	381.1	499.5	502.2	466.2	460.9	406.0	428.3
YoY Growth	%	35.1	19.7	-2.5	26.7	31.1	0.5	-7.2	-1.1	-11.9	5.5
Trade Balance	US\$ Bn	-91.5	-119.5	-118.2	-129.9	-189.8	-195.6	-147.6	-144.2	-136.0	-144.8
Net Invisibles	US\$ Bn	75.7	91.6	80.0	84.6	111.604	107.5	115.2	116.2	118.8	121.1
Current Account Deficit	US\$ Bn	-15.7	-27.9	-38.2	-45.3	-78.2	-88.2	-32.4	-27.9	-17.2	-23.7
CAD (% of GDP)	%	-1.3	-2.3	-2.8	-2.6	-4.2	-4.7	-1.7	-1.4	-0.8	-1.0
Capital Account Balance	US\$ Bn	106.6	7.8	51.6	62.0	67.8	89.3	48.8	90.0	50.4	75.5
Dollar-Rupee (Average)		40.3	45.8	47.4	45.6	47.9	54.4	60.5	61.2	65.0	67.0

Source: RBI, CSO, CGA, Ministry of Agriculture, Ministry of commerce, Bloomberg, PhillipCapital India Research

PhillipCapital India Coverage Universe: Valuation Summary

Name of company	Sector	CMP	Mkt Cap	Net Sales (Rs mn)		EBIDTA (Rs mn)		PAT (Rs mn)		EPS (Rs)		EPS Growth (%)		P/E (x)		P/B (x)		EV/EBITDA (x)		ROE (%)		ROCE (%)	
				FY16E	FY17E	FY16E	FY17E	FY16E	FY17E	FY16E	FY17E	FY16E	FY17E	FY16E	FY17E	FY16E	FY17E	FY16E	FY17E	FY16E	FY17E	FY16E	FY17E
Chambal Fertilisers	Agri Inputs	64	26,822	106,626	105,340	8,258	8,387	3,619	3,692	9	9	36.9	2.0	7.4	7.2	1.1	1.0	6.9	6.6	14.4	13.3	6.9	6.9
Zuari Agrochemicals	Agri Inputs	171	7,181	51,046	54,930	2,470	3,230	181	828	4	20	-66.8	358.3	39.8	8.7	0.9	0.8	11.4	8.1	2.2	9.5	0.6	2.7
Rallis India	Agri Inputs	217	42,278	16,417	18,660	2,433	2,934	1,323	1,638	7	8	-15.9	23.8	32.0	25.8	4.7	4.2	17.8	14.5	14.7	16.4	13.3	15.1
Tata Chemicals Ltd	Agri Inputs	476	121,328	181,331	190,743	23,766	26,245	8,950	10,284	35	40	11.8	14.9	13.6	11.8	2.0	1.8	7.8	6.8	14.6	15.1	8.4	9.2
Kaveri Seeds	Agri Inputs	376	25,954	9,247	11,136	2,080	2,784	1,990	2,842	29	41	-33.9	42.8	13.0	9.1	2.9	2.3	11.5	8.2	22.1	25.7	23.4	27.5
United Phosphorus	Agri Inputs	614	263,163	128,903	141,881	25,315	27,296	11,375	13,489	27	31	-3.3	18.6	23.1	19.5	4.1	3.7	11.2	10.3	18.5	19.8	16.0	16.1
Monsanto India	Agri Inputs	2,282	39,385	4,943	5,764	890	1,043	790	956	46	55	-26.9	21.0	49.8	41.2	10.3	10.4	43.5	37.0	20.6	25.3	17.9	19.8
PI Industries	Agri Inputs	786	107,727	22,849	27,361	4,477	5,355	2,871	3,637	21	27	16.7	26.7	37.4	29.5	9.4	7.5	23.8	19.5	25.3	25.3	26.1	26.0
Coromandel Inte	Agri Inputs	256	74,622	98,386	105,672	7,489	9,763	3,371	4,966	12	17	-16.8	47.3	22.1	15.0	2.7	2.4	11.4	8.4	12.0	16.1	13.7	17.2
Tata Motors	Automobiles	516	1,659,385	2,726,458	2,714,045	412,184	456,338	110,565	159,228	34	49	-21.5	44.0	15.0	10.4	2.1	1.7	4.8	4.3	13.7	16.7	8.4	8.1
Bharat Forge	Automobiles	814	189,564	75,501	75,564	14,213	14,233	6,550	7,314	28	31	-8.8	11.7	28.9	25.9	4.9	4.3	14.2	13.8	16.9	16.8	12.6	13.2
Mahindra & Mahindra	Automobiles	1,484	921,701	388,566	449,920	51,988	55,659	32,919	34,295	56	58	6.4	4.2	26.7	25.6	3.9	3.5	17.8	16.5	14.7	13.8	12.4	11.9
Ashok Leyland	Automobiles	88	250,722	185,771	214,973	21,660	24,432	11,112	13,514	4	5	375.1	21.6	22.6	18.6	4.6	3.8	11.8	10.0	20.2	20.2	15.7	17.1
Apollo Tyres	Automobiles	175	89,054	118,404	118,681	19,241	18,752	10,269	9,107	20	18	-3.1	-11.3	8.7	9.8	1.5	1.3	4.9	5.4	18.6	14.1	15.8	12.3
Maruti Suzuki	Automobiles	4,942	1,492,774	563,504	649,904	89,785	100,121	45,714	64,002	151	212	23.2	40.0	32.7	23.3	5.5	4.7	16.6	14.9	16.9	20.0	16.6	20.0
Mahindra CIE	Automobiles	180	58,275	36,775	54,170	3,781	6,497	1,652	3,147	5	10	12.5	90.4	35.2	18.5	2.9	2.6	18.1	9.4	8.2	14.0	5.7	12.1
Bajaj Auto	Automobiles	2,862	828,197	222,528	261,257	47,796	55,203	36,525	43,796	126	151	15.8	19.9	22.7	18.9	6.7	5.5	17.2	14.5	29.7	29.3	28.1	30.5
Hero MotoCorp	Automobiles	3,444	687,714	281,605	321,945	44,470	49,032	31,324	34,764	157	174	23.3	11.0	22.0	19.8	8.7	7.2	15.4	14.1	39.4	36.5	38.1	35.2
Escorts Ltd	Automobiles	264	32,311	34,561	37,721	1,600	2,691	1,039	1,713	9	14	-1.4	64.9	30.3	18.4	1.7	1.6	20.6	11.9	5.5	8.5	5.1	8.0
Cummins India	Capital Goods	857	237,450	48,074	56,014	8,184	10,074	7,992	9,102	29	33	14.9	13.9	29.7	26.1	7.4	6.7	28.9	23.5	25.1	25.7	21.6	22.7
Engineers India	Capital Goods	220	74,193	15,978	15,186	1,736	2,195	2,722	2,803	8	8	-17.6	3.0	27.2	26.5	2.7	2.7	28.6	23.2	10.1	10.1	10.2	10.3
Siemens	Capital Goods	1,294	460,731	103,609	112,998	8,137	10,259	6,169	8,582	17	24	73.7	39.1	74.7	53.7	9.7	8.9	53.5	41.6	13.0	16.6	10.6	13.6
Crompton Greaves	Capital Goods	81	50,516	127,703	142,459	6,220	8,709	1,486	3,578	2	6	-19.3	140.8	34.0	14.1	1.3	1.2	10.8	7.4	3.7	8.4	3.2	6.5
VA Tech Wabag	Capital Goods	583	31,792	28,942	33,622	2,388	2,883	1,225	1,483	23	27	9.6	21.0	25.8	21.4	3.2	2.9	12.9	10.9	12.3	13.4	9.8	10.6
Vollas	Capital Goods	349	115,429	55,468	58,401	3,326	4,615	2,711	3,690	8	11	-18.5	36.1	42.6	31.3	5.0	4.5	34.4	24.2	11.8	14.3	12.0	14.9
BHEL	Capital Goods	138	337,035	258,137	295,131	-10,904	15,208	-5,473	12,262	-2	5	n.a.	n.a.	-61.6	27.5	1.0	1.0	-17.6	14.5	-1.6	3.5	-1.2	2.8
Alstom T&D	Capital Goods	348	89,194	41,950	43,904	3,793	4,236	1,821	2,096	7	8	40.5	15.1	49.0	42.6	6.1	5.7	23.7	20.8	12.4	13.4	12.4	13.1

NOTE: For banks, EBITDA is pre-provision profit

PhillipCapital India Coverage Universe: Valuation Summary

Name of company	Sector	CMP	Mkt Cap	Net Sales (Rs mn)		EBIDTA (Rs mn)		PAT (Rs mn)		EPS (Rs)		EPS Growth (%)		P/E (x)	P/B (x)	EV/EBITDA (x)		ROE (%)					
				FY16E	FY17E	FY16E	FY17E	FY16E	FY17E	FY16E	FY17E	FY16E	FY17E			FY16E	FY17E	FY16E	FY17E	FY16E	FY17E		
ABB India	Capital Goods	1,219	258,412	81,403	92,625	7,125	8,633	2,999	3,885	14	18	15.8	29.6	86.2	66.5	8.6	8.0	36.3	29.9	10.0	12.1	9.5	11.0
Larsen & Toubro	Capital Goods	1,512	1,409,383	1,017,884	1,127,411	119,264	138,973	44,079	54,793	47	59	-0.2	24.3	32.1	25.8	3.2	2.9	20.0	17.1	10.0	11.4	4.4	4.9
KEC International	Capital Goods	141	36,198	87,242	93,074	6,769	7,531	1,807	2,290	7	9	59.4	26.7	20.0	15.8	2.4	2.2	8.5	7.4	12.2	13.8	9.5	10.3
Thermax	Capital Goods	865	103,023	54,828	51,416	4,676	4,543	2,825	2,720	24	23	21.0	-3.7	36.5	37.9	4.4	4.2	22.3	22.2	12.2	11.0	9.6	8.6
Inox Wind	Capital Goods	219	48,511	42,332	49,830	6,764	8,519	4,531	5,715	20	26	71.0	26.1	10.7	8.5	2.8	2.2	8.3	6.6	26.1	26.3	18.0	18.3
Alstom India	Capital Goods	603	40,505	23,144	27,900	1,174	1,741	918	1,470	14	22	-33.8	60.1	44.1	27.6	3.5		24.6	15.7	8.0		8.5	25.8
Dalmia Bharat Ltd	Cement	1,446	128,404	63,672	81,114	15,079	20,304	1,908	5,205	22	59	172.5	67.2	24.7	3.3	3.4	12.9	9.3	4.9	4.9	13.8	5.8	8.2
Shree Cement	Cement	16,681	581,123	55,677	86,332	13,202	27,394	4,549	12,569	174	361	42.3	107.2	95.8	46.2	9.4	8.1	43.8	20.5	9.8	17.5	9.5	16.7
Mangalam Cement	Cement	293	7,812	8,330	9,293	350	1,115	-205	242	-8	9	n.a.	n.a.	-38.2	32.3	1.6	1.5	36.0	11.6	-4.1	4.7	0.6	5.0
OCL India	Cement	733	41,711	25,362	29,529	4,385	5,857	2,047	3,224	36	57	50.6	57.5	20.4	12.9	3.0	2.5	9.5	6.7	14.6	19.5	11.9	17.5
JK Lakshmi Cement	Cement	427	50,233	26,352	33,061	2,711	4,971	233	1,393	2	12	-86.1	497.5	215.5	36.1	3.7	3.4	25.1	13.6	1.7	9.5	4.7	8.1
JK Cement	Cement	749	52,355	37,557	37,763	5,105	6,005	634	1,502	9	21	-49.2	136.9	82.6	34.9	3.2	3.1	15.7	13.1	3.9	8.8	5.0	6.4
HeidelbergCement	Cement	128	29,040	16,281	18,694	2,105	2,904	387	1,020	2	4	n.a.	163.8	75.1	28.5	3.2	2.9	17.0	12.1	4.3	10.2	5.5	8.3
India Cement	Cement	123	37,829	48,654	60,035	8,665	10,226	1,444	2,601	5	8	n.a.	80.1	26.2	14.5	1.1	1.1	7.4	6.0	4.2	7.3	6.1	7.5
Ambuja Cement	Cement	276	428,169	93,880	105,005	14,489	18,628	8,079	10,699	5	7	-45.8	32.3	53.0	40.0	4.2	4.0	26.1	20.3	7.9	10.0	7.3	9.3
ACC	Cement	1,721	323,191	114,328	126,246	11,730	15,917	7,520	9,415	40	50	-35.3	25.2	43.0	34.4	3.8	3.7	26.4	19.7	8.9	10.8	8.1	9.7
Ultratech Cement	Cement	3,807	1,044,758	252,806	289,472	46,195	61,865	22,866	34,527	83	126	9.0	51.0	45.7	30.3	5.0	4.3	23.7	17.2	10.9	14.4	8.4	11.4
Havells India Ltd	Electricals	407	254,004	54,368	64,549	7,478	9,290	5,128	6,407	8	10	10.3	24.9	49.5	39.6	9.6	8.7	32.2	25.8	19.4	22.0	17.4	19.7
Finolex Cables Ltd	Electricals	392	59,968	24,029	28,031	2,803	3,802	1,907	2,765	12	18	8.3	45.0	31.5	21.7			20.7	14.9	13.0	16.4	13.2	16.6
VGuard Industries Ltd	Electricals	1,705	51,295	18,623	21,701	1,780	2,188	1,117	1,414	37	47	57.9	26.6	45.9	36.3			28.8	23.2	23.7	24.1	22.9	24.9
KEI Industries	Electricals	115	8,844	23,256	26,544	2,423	2,808	2,170	2,532	28	33	28.9	16.7	4.1	3.5	5.7	4.8	5.7	4.8	59.2	57.4	26.1	27.9
Bejaj Electricals Ltd	Electricals	273	27,536	46,120	51,434	2,594	3,080	956	1,323	9	13	-785.2	38.4	28.7	20.8			12.9	10.7	12.7	15.3	10.5	12.4
LIC Housing Finance	Financials	519	261,743	124,490	147,147	25,186	29,807	16,280	19,248	32	38	17.4	18.2	16.1	13.6	2.9	2.4	10.4	8.8	19.2	19.4	1.3	1.3
DCB Bank	Financials	114	32,520	6,208	7,681	3,553	3,210	1,623	1,298	6	5	-15.1	-20.0	19.8	24.8	2.1	1.9	9.2	10.1	10.0	7.4	0.9	0.6
Indusind Bank	Financials	1,185	705,817	45,347	54,526	42,493	50,352	22,783	26,948	39	46	14.1	18.3	30.6	25.9	4.1	3.6	16.6	14.0	16.6	14.6	1.9	1.8
Repco Home Finance	Financials	828	51,797	2,508	10,987	2,508	3,196	1,492	1,901	24	30	20.7		34.7	27.4	5.5	0.1	20.6	19.6	17.0	18.4	2.2	2.2
Punjab National Bank	Financials	124	242,504	172,775	195,620	127,147	140,053	31,259	43,195	79	105	-3.9	31.7	1.6	1.2	0.8	0.7	1.9	1.7	7.9	9.8	0.5	0.6

PhillipCapital India Coverage Universe: Valuation Summary

Name of company	Sector	CMP	Mkt Cap	Net Sales (Rs mn)		EBIDTA (Rs mn)		PAT (Rs mn)		EPS (Rs)		EPS Growth (%)		P/E (x)		P/B (x)		EV/EBITDA (x)		ROE (%)		ROCE (%)	
				FY16E	FY17E	FY16E	FY17E	FY16E	FY17E	FY16E	FY17E	FY16E	FY17E	FY16E	FY17E	FY16E	FY17E	FY16E	FY17E	FY16E	FY17E	FY16E	FY17E
Bank of India	Financials	111	104,098	113,051	127,049	63,902	74,176	-31,887	11,076	-40	12	-251.5	-129.6	-2.8	9.3	0.8	0.7	1.6	1.4	-11.5	3.8	-0.5	0.2
Corporation bank	Financials	41	42,229	43,730	49,080	32,989	36,350	-1,921	2,648	-9	11	-126.9	-218.0	-4.4	3.7	0.1	0.1	1.3	1.2	-1.8	2.3	-0.1	0.1
Bank of Baroda	Financials	158	363,251	123,908	144,969	85,903	103,271	-15,488	35,224	-7	15	-143.7	-327.4	-23.5	10.3	1.1	0.9	4.2	3.5	-4.0	8.8	-0.2	0.5
State Bank of India	Financials	233	1,806,786	761,480	865,203	504,778	504,629	126,779	145,077	163	181	-30.4	10.6	1.4	1.3	1.2	1.1	3.6	3.6	7.3	7.6	0.4	0.7
Union Bank	Financials	137	94,248	82,194	90,635	58,333	63,774	12,762	11,365	19	15	-33.8	-19.4	7.4	9.2	0.6	0.5	1.6	1.5	6.6	5.4	0.3	0.3
Canara Bank	Financials	259	140,770	91,757	99,117	69,458	71,508	10,027	14,946	20	28	-65.2	41.2	13.1	9.3	0.7	0.6	2.0	2.0	3.7	5.1	0.2	0.2
Indian Bank	Financials	202	97,019	44,674	48,420	31,614	33,215	7,386	9,103	15	19	-26.5	23.3	13.1	10.7	0.9	0.8	3.1	2.9	5.7	6.7	0.4	0.4
Oriental Bank of Com	Financials	122	42,233	53,538	59,126	38,913	41,596	547	4,262	2	12	-89.0	567.6	66.9	10.0	0.4	0.4	1.1	1.0	0.4	3.0	0.0	0.2
ICICI Bank	Financials	246	1,430,672	211,212	243,027	250,632	256,001	120,868	130,580	104	112	7.9	7.8	2.4	2.2	1.8	1.7	5.7	5.6	14.3	14.0	1.8	1.7
Shriam Transport Fin	Financials	1,299	294,811	51,874	60,333	38,400	44,783	11,782	18,266	52	81	-4.8	55.0	25.0	16.1	129.9	129.9	7.7	6.6	12.2	16.7	1.9	2.5
Shriam City Union Fi	Financials	2,000	131,821	24,726	28,474	14,232	16,675	5,298	6,286	80	95	-5.1	18.6	24.9	21.0	2.9	2.6	9.3	7.9	12.3	13.2	2.7	2.8
AXIS Bank	Financials	567	1,353,888	163,255	192,698	159,084	181,827	85,465	99,622	36	42	15.6	16.0	15.8	13.6	2.8	2.6	8.5	7.4	17.7	17.8	1.7	1.7
Cholamandalam Inves	Financials	1,124	175,500	21,429	25,095	12,983	15,417	5,687	7,487	36	48	20.1	31.7	30.9	23.4	4.8	4.1	13.5	11.4	16.7	18.8	2.2	2.5
HDFC Limited	Financials	1,342	2,121,813	311,386	353,656	100,235	114,400	69,114	79,030	32	38	17.4	-	41.6	35.2	6.0	5.3	21.2	18.5	21.0	21.1	2.6	2.6
Mah & Mah Finance	Financials	334	189,740	32,658	36,558	20,877	23,657	6,726	8,286	12	15	-19.2	23.2	28.0	22.7	3.1	2.8	9.1	8.0	11.4	13.0	1.8	2.0
HDFC Bank	Financials	1,249	3,162,778	274,149	324,937	223,351	263,567	124,109	147,056	248	293	21.5	18.5	5.0	4.3	4.4	3.9	14.2	12.0	18.6	19.1	1.9	1.9
SKS Microfinance	Financials			12,614	19,290	4,149	6,085	2,964	4,301	24	34	58.5	45.1							24.9	27.7	4.8	4.2
Andhra Bank	Financials	61	41,789	52,389	59,881	36,449	41,930	4,814	9,668	7	13	-33.3	80.8	8.7	4.8	0.5	0.5	1.1	1.0	4.9	8.9	0.2	0.4
Asian Paints	FMCG	1,143	1,096,699	153,307	172,537	28,086	32,330	17,787	20,341	19	21	25.0	14.4	61.7	53.9	19.6	16.6	39.0	33.7	31.7	30.8	31.1	31.5
Hindustan Unilever	FMCG	926	2,003,009	314,253	339,681	62,306	70,219	41,226	45,179	19	21	6.9	9.6	48.7	44.4	54.4	55.1	31.7	28.1	111.8	124.1	111.2	124.5
Bajaj Corp	FMCG	397	58,543	8,742	9,500	2,715	2,960	2,433	2,575	16	17	10.8	5.8	24.1	22.7	12.2	12.2	21.3	19.4	50.6	53.6	42.6	50.7
ITC	FMCG	253	3,048,483	364,753	408,430	137,932	155,196	93,997	108,802	8	9	2.4	15.8	32.4	28.0	9.3	8.7	21.6	19.2	28.5	31.0	22.9	24.4
Emami	FMCG	1,147	260,377	25,846	31,005	6,446	7,941	3,194	5,607	14	25	-34.2	75.5	81.5	46.4	18.6	16.4	41.3	33.1	22.8	35.4	20.9	16.4
Nestle	FMCG	6,838	659,295	81,233	101,096	15,946	21,507	10,642	12,459	110	129	-10.3	17.1	62.0	52.9	23.4	19.9	41.0	30.5	37.8	37.6	37.5	40.5
Jubilant Foodworks	FMCG	1,172	77,160	24,102	28,216	2,852	3,588	1,146	1,570	18	24	-7.0	37.1	66.9	48.8	10.0	8.3	26.9	21.2	14.9	17.0	15.2	17.7
Marico Industries	FMCG	297	382,729	61,320	66,307	10,444	12,457	7,067	8,497	5	7	26.9	20.2	54.2	45.0	18.2	15.2	36.7	30.3	33.7	33.7	29.7	31.5
Colgate	FMCG	960	261,065	36,514	46,119	4,505	10,445	1,271	6,291	5	23	-77.3	395.0	205.4	41.5	25.6	20.5	57.3	24.7	12.5	49.5	14.2	54.9

PhillipCapital India Coverage Universe: Valuation Summary

Name of company	Sector	CMP	Mkt Cap	Net Sales (Rs mn)		EBIDTA (Rs mn)		PAT (Rs mn)		EPS (Rs)		EPS Growth (%)		P/E (x)		P/B (x)		EV/EBITDA (x)		ROE (%)			
				FY16E	FY17E	FY16E	FY17E	FY16E	FY17E	FY16E	FY17E	FY16E	FY17E	FY16E	FY17E	FY16E	FY17E	FY16E	FY17E	FY16E	FY17E	FY16E	FY17E
Agro Tech Foods	FMCG	486	11,841	7,802	8,381	549	698	234	355	10	15	-37.3	52.0	50.6	33.3	3.5	3.2	23.3	16.9	6.9	9.7	6.8	9.1
Dabur India Ltd	FMCG	296	520,266	84,360	92,122	15,197	17,148	12,526	14,072	7	8	17.4	12.3	41.5	37.0	12.5	10.5	34.6	30.2	30.1	28.5	27.8	26.5
Godrej Consumer Pro	FMCG	1,590	541,313	89,572	101,805	16,242	18,804	11,462	13,181	34	39	26.4	15.0	47.2	41.1	10.6	8.9	34.6	29.6	22.5	21.6	16.4	16.8
Britannia	FMCG	2,885	346,082	86,071	97,693	11,548	13,266	8,163	9,341	68	78	50.5	14.4	42.4	37.0	19.6	14.8	30.0	25.9	46.1	39.9	48.6	42.5
Apotex Industries	FMCG	396	8,221	2,948	5,288	393	448	384	278	18	13	55.7	-27.6	21.6	29.8	4.4	4.2	20.7	18.2	20.5	14.0	26.6	15.0
GlaxoSmithkline Cons	FMCG	6,186	260,164	41,066	43,395	6,328	4,691	6,869	5,375	163	128	17.7	-21.7	37.9	48.4	10.6	9.7	36.8	48.5	28.1	20.0	30.0	20.9
J Kumar InfraProjects	Infrastructure	194	14,668	14,775	18,469	2,719	3,371	1,154	1,614	15	21	4.2	39.8	12.7	9.1	1.1	1.0	5.1	4.7	11.1	11.8	10.8	11.4
PNC Infotech Ltd	Infrastructure	562	28,856	19,512	23,415	2,576	3,091	1,264	1,640	25	32	-2.3	29.8	22.8	17.6	2.3	2.0	11.5	9.9	12.7	12.2	11.6	11.3
GMR Infrastructure	Infrastructure	14	83,900	108,828	94,388	46,076	33,267	-16,983	-28,985	-3	-5	-46.1	70.7	4.5	-2.6	1.1	1.9	11.3	15.1	-24.9	-73.7	2.2	-0.6
GVK Power	Infrastructure	6	9,633	29,885	48,605	18,897	28,264	-6,809	-3,136	-4	-2	33.8	-53.9	-1.4	-3.1	0.6	0.7	12.7	8.3	-45.7	-21.7	1.2	3.4
MBL Infrastructures Ltd	Infrastructure	124	5,132	21,433	24,648	2,358	2,711	705	783	17	19	-56.0	11.1	7.3	6.6	0.7	0.7	5.3	5.3	10.4	10.5	9.9	9.9
KNR Construction	Infrastructure	598	16,823	10,076	12,594	1,511	1,889	1,160	1,124	41	40	58.9	-3.1	14.5	15.0	2.5	2.1	11.3	9.1	18.5	15.3	17.4	14.6
NCC	Infrastructure	79	43,724	79,658	83,644	7,129	7,737	2,177	3,003	4	5	94.8	37.9	20.1	14.6	1.3	1.2	8.7	7.6	6.4	8.1	10.0	10.4
ITD Cementation	Infrastructure	148	22,940	36,304	41,750	3,086	3,966	1,016	1,532	7	10	95.7	50.8	22.6	15.0	3.9	3.1	10.1	8.0	17.2	20.6	14.1	15.8
Ashoka Buildcon	Infrastructure	155	29,083	26,758	33,201	7,950	10,989	963	1,393	5	7	0.3	44.5	30.2	20.9	1.5	1.4	8.9	6.4	5.0	6.7	4.5	6.1
Adani Ports & SEZ	Infrastructure	234	484,603	69,353	71,132	46,211	49,181	26,677	29,109	13	14	15.1	9.1	18.2	16.6	3.7	3.1	14.1	13.0	20.4	18.5	10.7	11.0
IRB Infrastructure	Infrastructure	211	74,191	49,104	55,492	26,355	31,495	5,904	6,378	17	18	2.8	8.0	12.6	11.6	1.4	1.2	8.0	7.3	11.2	10.1	3.2	3.5
Mindtree Ltd	IT Services	613	102,880	46,730	55,277	8,210	8,944	5,525	5,959	33	36	2.7	8.0	18.6	17.2	4.3	3.6	12.3	11.1	22.9	21.1	24.7	22.6
Wipro	IT Services	547	1,351,974	512,440	557,747	111,946	110,811	88,983	87,246	36	35	3.1	-2.1	15.1	15.5	2.9	2.6	12.5	12.2	19.1	16.6	19.0	16.3
NIIT Technologies	IT Services	423	25,890	26,850	28,739	4,705	4,767	2,743	2,811	45	46	139.7	2.3	9.4	9.2	1.6	1.5	4.3	4.3	17.2	16.0	17.4	13.9
Infosys Technologies	IT Services	1,068	2,453,137	624,420	705,456	170,790	194,025	134,920	150,837	59	66	9.4	11.8	18.1	16.2	4.0	3.8	12.3	10.6	21.9	23.2	23.0	23.7
Tata Consultancy	IT Services	2,649	5,219,861	1,086,462	1,215,036	306,780	340,099	242,148	274,013	123	139	22.5	13.2	21.6	19.0	7.1	5.9	16.8	15.1	33.1	31.2	35.8	33.0
HCL Technologies	IT Services	822	1,159,289	455,250	498,115	99,567	108,506	80,661	88,317	57	63	47.9	9.5	14.4	13.1	3.6	3.1	11.7	10.6	25.1	23.9	25.3	24.6
Persistent Systems	IT Services	675	54,032	23,123	28,830	4,171	4,601	2,974	3,128	37	39	2.3	5.2	18.2	17.3	3.2	2.9	12.6	11.5	17.9	16.5	17.5	16.4
KPIITechnologies	IT Services	132	26,139	32,256	32,619	4,346	3,879	2,846	2,343	15	12	20.4	-19.3	8.7	10.8	1.8	1.6	5.6	6.2	20.6	14.6	17.6	14.0
Tech Mahindra	IT Services	495	480,598	264,942	288,919	42,928	46,190	30,226	30,552	35	35	26.1	-0.1	14.2	14.2	2.7	2.4	10.9	9.9	19.1	16.9	19.9	18.1
Allcargo Logistics	Logistics	187	47,091	55,366	64,113	4,983	6,225	2,534	3,189	10	13	28.1	25.9	18.6	14.8	10.1	8.1	10.1	8.1	12.1	13.6	10.4	12.0

PhillipCapital India Coverage Universe: Valuation Summary

Name of company	Sector	CMP	Mkt Cap	Net Sales (Rs mn)		EBIDTA (Rs mn)		PAT (Rs mn)		EPS (Rs)		EPS Growth (%)		P/E (x)		P/B (x)		EV/EBITDA (x)		ROE (%)	
				FY16E	FY17E	FY16E	FY17E	FY16E	FY17E	FY16E	FY17E	FY16E	FY17E	FY16E	FY17E	FY16E	FY17E	FY16E	FY17E	FY16E	FY17E
VRL Logistics Ltd	Logistics	314	28,646	17,215	19,077	2,851	3,248	1,166	1,454	13	16	33.1	24.8	24.6	19.7	10.9	9.4	21.7	23.8	15.1	17.6
Container Corp Of India	Logistics	1,443	281,280	57,711	67,724	12,015	14,912	8,856	10,859	45	56	-15.5	22.6	31.8	25.9	3.3	3.1	21.4	17.1	10.5	11.8
Zee Entertainment	Media	496	47,767	58,515	68,480	15,095	19,347	9,134	11,982	10	12	9.7	31.2	52.2	39.8	7.6	6.7	30.5	23.7	14.7	16.9
DB Corp Limited	Media	410	75,324	20,519	23,652	5,323	6,813	2,949	4,056	16	22	-6.8	37.5	25.5	18.6	5.6	5.3	14.2	11.0	21.9	28.4
Jagran Prakashan	Media	181	59,253	20,941	23,558	5,991	6,960	3,242	4,109	10	13	41.1	26.7	17.7	14.0	3.5	3.0	10.1	8.2	19.8	21.2
HF Media	Media	80	18,573	24,898	27,363	3,077	4,074	1,692	2,431	7	10	-5.9	43.7	11.0	7.6	0.9	0.8	7.1	4.7	7.8	9.9
Dish TV	Media	98	104,665	30,599	33,568	10,373	11,672	7,048	4,482	7	4	-36.4	14.8	23.3	26.7	12.5	10.5	9.0	180.1	53.4	511.7
Hindustan Media Vent	Media	270	19,835	9,119	10,193	2,179	2,605	1,747	2,080	24	28	24.2	19.1	11.4	9.5	2.2	1.8	8.7	6.6	19.3	18.9
Eros International	Media	230	21,480	18,247	20,035	4,447	5,265	3,190	3,694	34	40	29.1	15.8	6.7	5.8	1.2	1.0	5.5	4.6	17.8	17.3
NALCO	Metals	49	127,058	65,764	71,103	8,987	10,506	6,715	8,444	3	3	-42.8	25.7	18.9	15.0	1.0	1.0	9.3	7.9	5.2	6.4
SAIL	Metals	48	198,657	372,349	439,027	22,098	19,294	-31,364	-13,846	-8	-3	-243.8	-55.9	-6.3	-14.3	0.5	0.5	-23.2	27.8	-7.8	-3.6
Tata Steel	Metals	382	370,713	1,171,516	1,124,823	75,857	167,997	9,256	49,585	10	51	29,318.0	435.1	40.0	7.5	1.3	1.1	15.6	6.9	3.2	15.3
Vedanta Ltd	Metals	169	501,330	629,078	757,704	147,089	213,221	31,283	61,352	11	21	-52.3	96.1	16.0	8.2	1.1	1.0	8.5	5.7	7.0	12.6
JSW Steel	Metals	1,738	420,040	418,789	523,802	60,730	135,104	13,835	43,574	57	180	-25.0	215.0	30.4	9.6	2.0	1.9	13.4	6.2	6.6	19.8
Hindustan Zinc	Metals	219	923,655	139,590	168,643	66,406	90,337	81,967	81,744	19	19	-0.1	-0.3	11.3	11.3	2.5	2.1	8.6	7.1	21.9	19.0
Jindal Steel & Power	Metals	83	75,754	205,664	230,731	41,477	51,159	-18,148	-10,757	-20	-12	-386.5	-40.7	-4.2	-7.0	0.4	0.4	11.6	9.1	-8.6	-5.4
Hindalco Inds	Metals	144	296,738	1,004,752	1,050,612	86,301	110,895	-4,399	11,270	-2	5	-115.7	-356.2	-67.5	26.3	0.8	0.8	10.4	7.8	-1.2	2.9
Sintex Industries	Midcap	74	32,911	77,335	95,628	12,973	16,749	6,341	7,205	14	14	15.2	-3.2	5.2	5.4			6.9	6.1	11.5	10.8
KDDL	Midcap	260	2,624	4,658	5,564	394	502	89	132	9	13	31.3	47.3	29.3	19.9			9.4	7.8	10.5	14.0
Pennar Inds.	Midcap	48	5,729	15,098	19,470	1,593	2,235	517	835	4	7	44.0	61.6	11.1	6.9			4.1	3.0	11.0	15.6
Praj Inds.	Midcap	86	15,232	10,158	11,844	1,099	1,358	684	899	4	5	49.9	31.4	22.2	16.9	2.3	2.2	13.3	10.3	10.4	13.3
The Byke Hospitality	Midcap	164	6,570	2,137	2,761	449	580	241	329	6	8	20.3	36.7	27.3	20.0			14.6	11.1	20.6	23.0
PEBS	Midcap	184	6,317	77,335	95,628	12,973	16,749	6,341	7,205	14	14	15.2	-3.2	13.0	13.4			4.9	4.6	11.5	10.8
Indraprastha Gas	Oil & Gas	665	93,065	36,858	36,183	7,840	8,360	4,162	4,808	31	34	-2.1	12.2	21.7	19.4	3.9	3.4	11.3	10.3	17.8	17.4
Petronet LNG	Oil & Gas	311	232,875	281,150	272,419	17,250	20,993	10,777	10,919	14	15	22.1	1.3	21.6	21.3	3.6	3.2	14.5	11.9	16.9	15.2
Gujarat State Petronet	Oil & Gas	134	75,661	10,252	12,500	8,866	11,003	4,525	6,087	8	11	10.3	34.5	16.7	12.4	1.9	1.7	9.0	6.9	11.4	13.6
Gujarat Gas	Oil & Gas	625	85,980	59,933	55,787	7,301	9,779	1,686	3,966	12	29	-62.1	135.2	51.0	21.7	4.1	3.6	14.7	11.1	8.1	16.6

PhillipCapital India Coverage Universe: Valuation Summary

Name of company	Sector	CMP Rs	Mkt Cap Rs mn	Net Sales (Rs mn)		EBIDTA (Rs mn)		PAT (Rs mn)		EPS (Rs)		EPS Growth (%)		P/E (x)		P/B (x)		EV/EBITDA (x)		ROE (%)		ROCE (%)	
				FY16E	FY17E	FY16E	FY17E	FY16E	FY17E	FY16E	FY17E	FY16E	FY17E	FY16E	FY17E	FY16E	FY17E	FY16E	FY17E	FY16E	FY17E	FY16E	FY17E
Reliance Industries	Oil & Gas	1,016	3,295,134	2,765,440	2,921,804	442,570	398,294	272,070	219,750	92	74	15.3	-19.4	11.0	13.7	1.2	1.1	11.3	12.6	11.2	8.4	7.3	5.5
Cadila Healthcare	Pharma	377	385,541	94,694	104,692	23,460	24,357	14,724	16,722	14	16	24.8	13.6	26.2	23.1	7.2	5.7	17.2	16.3	27.8	24.9	19.6	19.8
Sun Pharma	Pharma	842	2,026,196	277,442	321,375	84,816	108,091	54,011	69,995	22	29	13.1	29.6	37.5	28.9	6.4	5.4	23.3	17.3	17.2	18.6	14.5	15.8
Dr Reddy's Labs.	Pharma	3,009	513,104	154,708	148,697	40,156	30,483	20,207	16,696	119	98	-11.4	-17.4	25.4	30.7	4.0	4.1	13.5	17.7	15.6	13.4	11.6	8.4
Aurobindo Pharma	Pharma	770	450,551	138,961	159,250	32,056	38,857	20,395	24,372	35	42	24.2	19.5	22.0	18.4	6.4	4.9	15.2	12.5	28.1	26.8	24.0	26.1
Cipla Ltd	Pharma	533	428,503	13,678	16,980	2,501	2,971	1,567	1,763	20	22	23.1	12.5	27.3	24.3	3.6	3.2	173.1	145.8	13.2	13.5	-	-
Ipca Laboratories	Pharma	518	65,407	28,445	34,133	3,417	5,988	1,362	3,355	11	27	-49.1	146.3	47.6	19.3	2.8	2.5	20.7	11.6	6.0	13.2	3.5	10.3
Divi's Laboratories	Pharma	1,184	314,355	37,764	44,131	14,138	16,726	10,874	12,262	41	46	-36.9	12.8	28.9	25.6	7.3	6.4	22.2	18.6	25.9	25.1	-	-
Glenmark Pharma	Pharma	843	237,859	73,685	88,566	16,341	20,782	9,201	12,411	33	44	18.6	34.9	25.8	19.2	5.6	4.4	16.5	12.6	21.5	22.8	12.6	15.3
Lupin	Pharma	1,675	754,998	137,016	172,312	37,877	48,153	22,128	29,826	49	66	-7.4	34.8	34.1	25.3	6.9	5.6	21.6	16.2	20.7	22.0	18.6	-
Biocon	Pharma	837	167,340	34,050	39,855	8,329	9,782	4,509	5,519	23	28	9.4	22.4	37.1	30.3	4.1	3.5	20.8	17.6	22.1	11.2	9.2	-
Titan Company	Retail	416	369,719	112,779	131,974	9,314	12,488	6,897	8,090	8	9	-15.5	17.3	53.6	45.7	10.6	8.6	39.7	29.6	21.0	20.8	21.6	21.4
Atul Ltd	Specialty	1,964	58,244	26,014	29,097	4,636	5,005	2,694	2,921	91	98	13.3	8.4	21.6	20.0	-	-	13.2	11.7	21.1	19.1	-	-
Camlin Fine Sciences	Specialty	92	9,519	4,893	6,928	918	1,275	404	584	4	6	1.8	44.7	22.1	15.3	-	-	12.2	9.3	20.3	26.5	-	-
Meghmani Organics	Specialty	46	11,660	13,370	15,404	2,680	3,081	637	916	3	4	41.5	43.9	18.3	12.7	-	-	6.5	5.4	9.9	13.0	9.7	11.1
Vinati Organics	Specialty	546	28,187	5,920	7,188	1,678	2,164	960	1,291	19	25	-17.1	34.5	29.4	21.8	-	-	16.6	13.0	24.3	20.0	-	-
Aarti Industries	Specialty	560	46,680	27,796	32,414	5,723	6,742	2,569	3,169	31	38	28.3	23.4	18.2	14.7	-	-	10.3	8.6	24.1	24.2	-	-
SRF Ltd	Specialty	1,532	87,960	46,001	51,136	9,715	10,994	4,335	4,924	75	86	41.3	13.6	20.3	17.9	-	-	11.2	9.9	15.8	16.0	9.3	9.9
Bharti Airtel	Telecom	364	1,455,054	966,192	1,011,016	340,718	365,567	39,031	52,685	10	13	-34.7	35.0	37.3	27.6	2.2	2.0	7.6	7.0	5.9	7.4	5.5	6.2
Idea Cellular	Telecom	106	382,405	357,974	390,485	129,395	137,572	34,969	17,126	10	5	9.5	-51.0	10.9	22.3	1.4	1.4	6.6	6.0	13.2	6.1	7.0	4.5
Tata Communications	Telecom	452	128,777	206,046	220,447	31,485	36,115	2,178	1,401	8	5	104.5	-35.7	59.1	91.9	-30.8	-25.1	6.7	5.7	-52.1	-27.3	4.8	4.8
Bharti Infratel	Telecom	389	719,960	77,875	84,732	53,660	58,942	23,820	26,398	13	14	19.4	13.5	31.0	27.3	4.0	4.3	13.2	11.2	13.0	15.7	10.8	11.8
Coal India	Utilities	329	2,080,610	773,545	880,021	163,466	198,241	145,174	166,590	23	26	5.8	14.8	14.3	12.5	4.5	3.9	9.4	7.3	31.4	31.4	33.2	33.2
PTC India	Utilities	78	23,222	137,014	181,612	10,802	13,079	3,126	3,371	11	11	-12.1	7.8	7.4	6.9	0.7	0.7	7.9	7.4	9.5	9.6	9.8	7.7
Power Grid Corp	Utilities	177	923,376	207,959	253,694	183,327	225,368	62,888	75,359	12	14	25.1	19.8	14.7	12.3	2.2	1.9	10.8	9.2	15.5	16.5	6.2	6.7
NTPC	Utilities	161	1,331,230	725,044	798,674	177,772	198,808	85,711	97,729	10	12	2.0	14.0	15.5	13.6	1.5	1.4	11.8	11.4	9.8	10.4	6.1	6.2

Note: For banks, EBITDA is pre-provision profit

SAVE THE DATE

28th September 2016

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