

## BUY

## Entering a new orbit

Bharat Electronics' (BHE) AR21 analysis indicates that FY22 guidance (sales growth of 15-17%) is very much realistic in nature as BHE has contracts worth ~Rs186bn to be executed within a year, which is 12-14% higher than sales guidance of Rs162-165bn. Notably, it has achieved execution of Rs141bn / Rs130bn in FY21 / FY20 vs targeted value Rs162bn / Rs131bn. Covid disruptions resulted into ~15% miss during FY21. Ramp up of non-defense opportunities, exports, improved share of high margin service business and growth opportunity for BHE from private sector forays into defense are all medium term catalysts. BHE has displayed traits of secular top-line growth over last decade with no drop in sales on YoY basis. We forecast similar trend in future given its healthy backlog of Rs545bn (book/bill of 3.9x), robust order pipeline ~Rs700-800bn in next 3 years, rising contribution from non-defense segment and margin expansion due to mix/indigenization. We retain BUY rating with a TP of Rs221, valuing at 18x Sept'23 EPS.

## Huge growth potential in non-defense segments

As a diversification strategy, BHE has been exploring opportunities in allied defense and non-defense areas for growth, leveraging its strengths & capabilities acquired in the defense electronics domain. In the past 4-5 years, the non-defense portion, on an average (exception being in FY19 due to EVM/VVPTs) in the Company's business is ~17% of total turnover. Non-defense revenues share in FY21 stood at 22%. The Company aims to achieve revenues of 25%+ from the non-defense biz in future which includes: i) Medical Electronics & Healthcare solutions (Rs10bn/yr), ii) Solutions for civil aviation sector, iii) Space launch vehicles, iv) Solar business, iv) Metro solutions (Rs10-15bn/yr), v) Electric vehicles (Fuel Cells, Charging Stations), vi) Homeland Security & Smart cities (Rs15bn/yr), vii) EVM & VVPAT and viii) Atmospheric water generator etc.

## Capable of delivering double digit top-line growth in long run

In addition to healthy order backlog stands of Rs545bn, management expects inflows of Rs150bn+ in FY22E. Moreover, orders worth Rs700-800bn are in pipeline over the next 3 years which includes, i) Electronic warfare: Rs120-150bn, ii) Missiles (Akash, QRSAM, LRSAM, MRSAM): Rs250-300bn, iii) Naval Equipment (Radar, Sonar, Combat management system, and communication system): Rs150-200bn, iv) Non-defense: Rs150bn and vi) Long-range glided bombs & ammunition fuses. BHE is a key beneficiary of the announced list of 156 defense systems/sub-systems for exports, including Akash and Brahmos.

## Indigenization, outsourcing &amp; mix to aid in margin uptick

BHE has started reaping fruits of its strong R&D spend and past investments to enhance scope of indigenization. Hence, it has been able to negate the overhang of lower margin in nomination-based contracts by reducing quantum of imports. Employee count (9,172 in FY21 vs 11,180 in FY11) continues to decline as it intends to reduce employee cost to 12% of sales by outsourcing low value addition jobs. Management has guided an EBITDA margin in the range of 20-22% for FY22E. There are substantial opportunities available in the high margin services business, including AMC as well as defense software. Margins are expected to improve led by increasing contribution from services & exports, and indigenization mandate which will create a favorable ecosystem, resulting in lower procurement costs and faster approvals.

BHE generated robust OCF of Rs51bn in FY21 (~total of past five years) due to improvement in NWC, which clearly is one of the re-rating triggers.

CMP	Rs 199
Target / Upside	Rs 221 / 11%
BSE Sensex	58,145
NSE Nifty	17,324

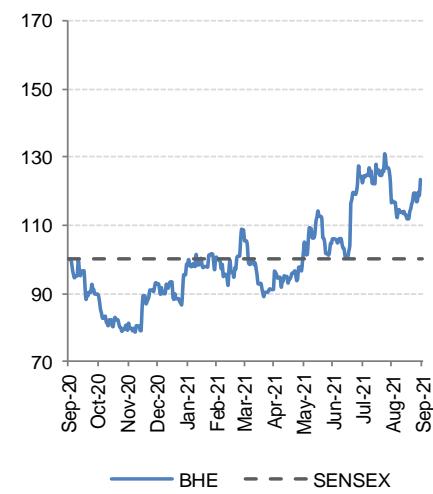
## Scrip Details

Equity / FV	Rs 2,437mn / Rs 1
Market Cap	Rs 484bn
	US\$ 6.6bn
52-week High/Low	Rs 200/Rs 86
Avg. Volume (no)	12,123,600
NSE Symbol	BEL
Bloomberg Code	BHE IN

## Shareholding Pattern Jun'21(%)

Promoters	51.1
MF/Banks/FIs	28.9
IIs	14.1
Public / Others	5.9

## BHE Relative to Sensex



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DOLAT CAPITAL

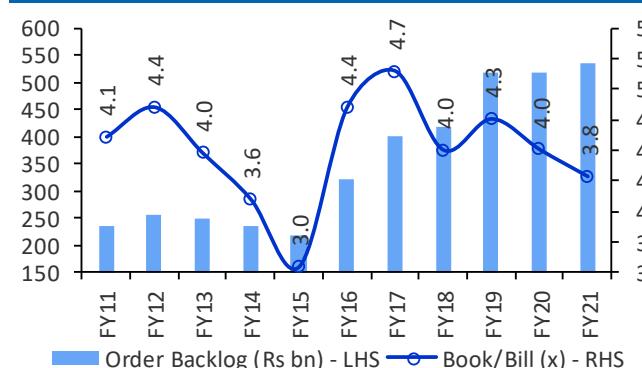
## Annual Report Macro View

<b>Key Management</b>	Mrs Anandi Ramalingam is the Chairman and Managing Director (Additional Charge). Dr. Dinesh Batra is the Director (Finance) & CFO. (Shri M V Gowtama, former Chairman and MD has retired from his services on 30th June, 2021)														
<b>Independent Director</b>	As on 31 March 2021, BEL Board of Directors comprises of seven Whole-time Executive (Functional) Directors including the CMD, two Part-time Government (Nonexecutive) Directors and one Part time Independent (Non-executive) Director.														
<b>Auditors</b>	M/s Suri & Co. are the statutory auditors of the company.														
<b>Pledged Shares</b>	0.47% of the shares are pledged														
<b>Macroeconomic factor</b>	<p>The Covid-19 pandemic caused a sharp drop in global trade, commodity prices, and tighter external financing conditions, all of which had varying effects on various countries' current account balances and currencies. Nonetheless, central bank stimulus and a resumption of vaccination programmes resulted in economic revival. According to a SIPRI report published in April 2021, global defence spending in 2020 will reach \$1981 billion, a 2.6 percent annual increase in real terms over 2019 – the highest level since 1988.</p> <p>In India, the budgetary allocation for defence was increased to Rs4,781 billion for fiscal year 2021-22, a Rs6.8bn or 1.4% increase. The capital expenditure allocation for modernization and infrastructure development of the Armed Forces has been significantly increased. The capital allocation for FY22 is Rs1,350bn, an increase of 18.75% over FY21. The Air Force received Rs532bn in capital expenditure, the Army received Rs366bn, and the Navy received Rs332bn.</p> <p>Furthermore, as part of a policy initiative, the route limit was raised from 49% to 74% in September 2020. This modification was made as part of the Aatmanirbhar Bharat Abhiyaan with domestic firms expected to benefit from increased access to capital and cutting-edge technology.</p>														
<b>Key Holders</b>	<table border="1"> <thead> <tr> <th>Category of Shareholder (%)</th> <th>FY21</th> </tr> </thead> <tbody> <tr> <td>Promoter Holding</td> <td>51.1</td> </tr> <tr> <td>DII</td> <td>28.9</td> </tr> <tr> <td>FII/FPI</td> <td>14.1</td> </tr> <tr> <td>Public</td> <td>5.9</td> </tr> <tr> <td>Others</td> <td>0</td> </tr> <tr> <td><b>Total</b></td> <td><b>100</b></td> </tr> </tbody> </table>	Category of Shareholder (%)	FY21	Promoter Holding	51.1	DII	28.9	FII/FPI	14.1	Public	5.9	Others	0	<b>Total</b>	<b>100</b>
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Source: Company, DART

## Story in charts

### Exhibit 1: Healthy order backlog of Rs545bn



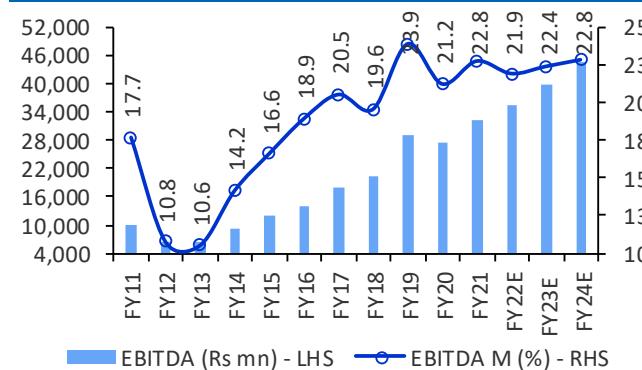
Source: Company, DART

### Exhibit 2: Strong OB warrant healthy execution over the next five years



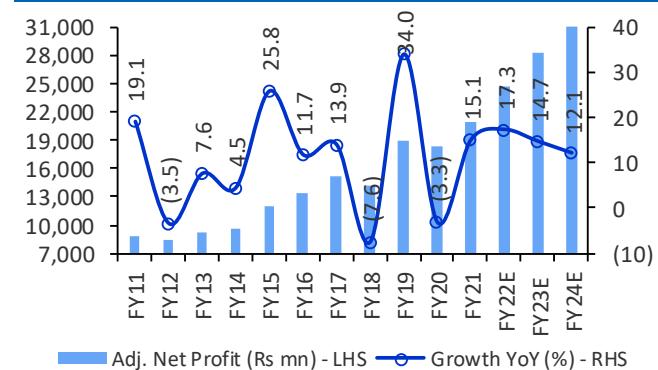
Source: Company, DART

### Exhibit 3: Indigenization mandate, internal efficiencies to aid in margin uptick



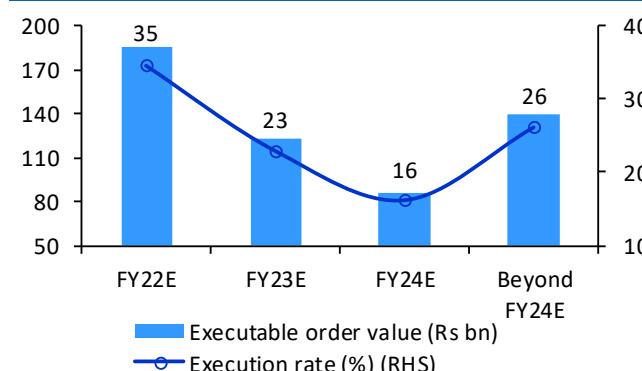
Source: DART, Company

### Exhibit 4: ... consequently, leading to uptick in profit



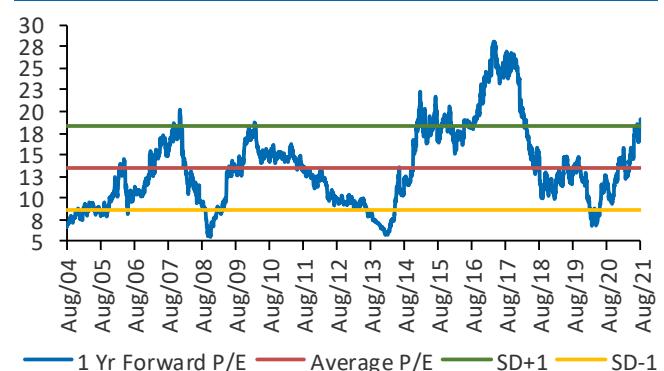
Source: DART, Company

### Exhibit 5: Execution timeline of current Order backlog



Source: DART, Company

### Exhibit 6: Stock is trading at a 1-Yr fwd PE of 19x



Source: DART, Company

## Solidifying its presence in Defence

To capitalize on the traction seen in the defence environment, BHE is focusing on increasing interaction levels and developing long-term relationships with emerging Strategic Partners, users, and other key stakeholders in the Indian defence industry. In addition to its existing defence offerings, the company intends to capitalize on opportunities in the upcoming Defense & Aerospace sectors. Some of the new areas of defence that are being focused on include:

### Unmanned Systems

Migration from Manned system to Unmanned system in military applications has led to a traction in UAV segment. BHE has been addressing the UAV/UGV/UUV/USV requirements of the Indian Defence / Non-Defence segments by partnering with DRDO / foreign OEMs/ Indian Academia/ Start-ups etc. BHE has been working on the Payloads (like EO, Communication, ESM etc.) and Ground Control Station requirements of the UAVs. BEL has also developed Drone Guard Systems.

### RF and IR Seekers

BHE is involved with the DRDO for concurrent absorption of technology for further engineering and production of RF and IR Seekers for various indigenous missiles categorized for domestic manufacturing.

BHE has been investing for the creation of modern manufacturing facilities for the indigenous manufacture of RF and IR seekers. The production lines creation for RF Seekers has been completed and Seekers manufactured in these lines have successfully completed flight trials during the year.

### Missiles, Arms and Ammunition

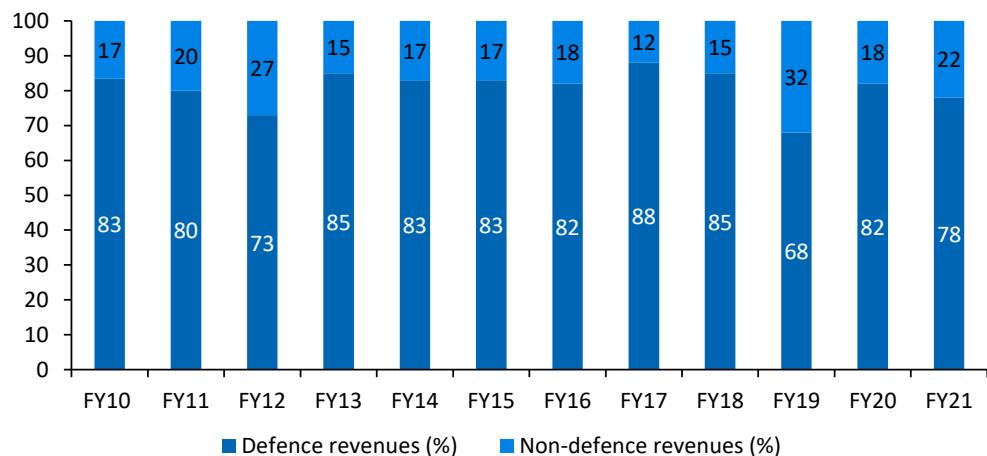
BHE is actively pursuing the opportunities for next generation missiles (through DRDO, DcPP, etc.) and ammunition, including smart ammunition, small arms etc. BHE is also partnering with technology partners, Academia, R&D institutes, start-ups etc. to achieve the intended objective of indigenous manufacture of the required arms and ammunition.

With regard to the creation of the required infrastructure, BHE has been making the required investments for creation of the necessary infrastructure for manufacture of missiles, glide bombs, rockets and its related parts. Substantial progress has been made during the last couple of years in this regard.

## Venturing into new avenues in Non-Defence

As a diversification strategy, the Company has been exploring opportunities in allied Defence and non-defence areas for growth, leveraging its strengths & capabilities acquired in the defence electronics domain. In the past 4-5 years, the non-Defence portion, on an average (exception being in 2018- 19 due to EVM/VVPTs) in the Company's business is about 15-20% of total turnover. This year, the Company has about 22% of turnover from the non-defence segment. The Company aims to achieve and maintain revenues of about 20-25% of its turnover from the non-Defence business in the coming years. Some of the areas being focused in the non-Defence include:

**Exhibit 7: Increasing share of non-defence segment**



Source: DART, Company

### Homeland Security

The Homeland Security market in India is spread across the Central/State Governments, government entities including the PSUs and Private Sector Organizations.

A significant market opportunity exists in police modernization, critical infrastructure protection, border management, counter terrorism activities, urban area security, ground transportation, port & maritime security, etc. Prevailing internal security concerns due to terrorist activities & crime, data thefts, remote monitoring needs for centralized command & control, asset protection & disaster management, growth in public infrastructure, increased IT spending, various Government initiatives, increase in security spending are boosting demand for the Homeland Security market in India.

The Ministry of Home Affairs has been allocated in excess of Rs1.66trn crore in the Union Budget. Besides, total budget allocation for the Union Home Ministry for FY22 for the Police Forces (which includes the Central Armed Police Forces (CAPFs) and Delhi Police) is Rs1trn.

### Smart City

The Smart Cities Mission has been allocated Rs65bn in the FY22 budget. BHE's Strategic Business Unit which was formed exclusively to address the Smart City and Homeland Security business, has made significant achievements by bagging several orders for Homeland Security and Smart City projects which are under different stages of implementation.

### Energy Storage Products

BHE is aiming business opportunities in the alternative power storage segment in the coming years due to huge requirement of high energy storage and maintenance free batteries for Defence and strategic applications and also for electric vehicles (EV).

Witnessing the opportunity for Li-ion cells and emerging market for fuel cells, BHE has identified Li-ion cells/ batteries and fuel cells as one of the focus areas and created a dedicated micro SBU to address business in a focused manner and further expand its presence in the Energy Storage Products segment.

BHE is collaborating with various Public/Private organizations in this area and has signed an MoU with M/s Triton Electric Vehicle LLC USA for cooperation in Energy Storage Systems and Electric Vehicles.

### **Solar – Renewable Energy**

BHE has scaled up its operations from a Cell/ Module manufacturing to execution of solar power plant projects under the Engineering Procurement Construction (EPC) / Developer mode. BHE has created a new Micro SBU for a focused approach to target the requirements of the Solar Business, which is likely to contribute to BEL's business on a continuous basis in the near future.

BHE has also been shortlisted by ISRO for manufacturing of Multi-Junction Solar Cells for space application. The plant, with a capacity of about 60,000 multi-junction cells per annum will be set up by ISRO and BEL is to oversee its complete manufacturing operations.

### **Space Electronics**

BHE is one of the major players in ground segment of Satellite Communication and desires to enter into Space Electronic Systems, manufacture of Small & Micro Satellite, Satellite Services and address Launch Vehicle segment jointly with Indian private industry. BHE has long term objective of becoming a prominent player in Space Based Assets and Payloads. During year FY21, BHE has responded, as lead bidder with consortium partners, to the RFI for PSLV productionization among Industry players and has been shortlisted for participation in the RFP. BEL also expressed its interest for participation in productionisation of Small Satellite Launch Vehicle (SSLV) for ISRO.

BEL has qualified as an industry partner of ISRO for Assembly, Integration and Testing (AIT) of satellites. It has completed Satellite AIT of three RISAT satellites at ISRO. BEL has collaborated with ISRO and has come out with new products like the next generation Indigenous Receivers for Positioning and Navigation (IRNSS), Satcom Terminals, LTCC-based Substrates and high power TWTs, which have usage in Defence, Government services and paramilitary applications, in collaboration with ISRO. BEL is jointly working with ISRO for supply and commissioning of various types of satellite networks and HUBs for satellite communication applications.

### **Network and Cyber security**

BHE's Network & Cyber Security division has made key progress during the year in implementing a sizeable amount of cyber security business such as Security Analytics Centre (SAC) for premier Central Govt /PSU organizations, Data-Diode Solutions for Defence, PKI, Secure Tokens and associated services for IAF, system hardening for radios, secure computing solutions for Sonars & Radios, timing servers/systems for Navy and Defence, AI & data analytics for Navy and DRDO and security services for Banking/Govt Agencies.

### **Railways and Metro**

BHE is seeing substantial business opportunities in the Rail and Metro businesses in India in new projects like National Common Mobility Card (NCMC) compliant Automatic Fare Collection (AFC) Gating system for Metros, Indian Computer-based Train Control/Automatic Train Supervision (ATS), Real Time Information System (RTIS) for Indian Railways, Supervisory Control And Data Acquisition (SCADA), CCTV Radios, LTE based Mission critical communication networks for the Railways, Unmanned Railway Crossing system, Composite Panels for Rail and Metros, etc. are some of the key areas being pursued by BHE.

BHE is collaborating with various public/private organizations in the area of ATS System, Mission Critical Communication System, Composite panel etc. The NCMC-compliant AFC gating system executed by BEL will be implemented across all modes of transportation i.e. Metro, trains or buses in a phased manner.

### Composites

BHE is planning to address the composites structures requirements of shipyards, submarines, aero structures, Railways & Metros, land equipment, pressurized missile containers, high altitude enclosures etc.

BHE has set up facilities for Resin Film Infusion (RFI) and Vacuum-Assisted Resin Transfer Molding Process (VARTM). BEL has also tied up with CSIR lab, Academia for consultancy and development of composite structures. Composite panels are being planned for development as per the requirement of shipyards and railways.

### Medical Electronics & healthcare Solutions

BHE has created a new business vertical - 'Medical Electronics Division' - to address the business in the medical electronics segment with the objectives of introducing affordable healthcare products/solutions to urban & rural populations in India and achieve Atmanirbhar in the Healthcare segment.

To quickly grow in this segment, a few niche products, indigenously designed by Indian companies, have been identified which can be manufactured at BHE through a ToT process. Also, to grow further in this segment, the company is planning to come out with its own products for futuristic markets, either through the in-house effort or through collaborative R&D approach. Based on the above approaches, BHE has planned to produce dialysis machines, portable remote patient health monitoring system, patient monitoring system for ICUs, C-Arm X-ray machines, oxygen concentrators, turbine-based ventilator, MRI etc.

### Major initiatives

During FY21, R&D projects were taken up by BHE and several projects were completed in specific business segments / areas. These include R&D projects in technology areas like Missile Systems, Radars, Electronic Warfare, Avionics, Military Communication, Naval Systems, Sonars, C4I systems, Electro-optics and Laser, Tank Electronics, Gun Upgrades, Civilian Equipment, Homeland Security, Medical Electronics, and components.

The benefits derived are in the form of a major share of revenues generated by the Company in the above business segments. Several technology modules have been developed, some of which have resulted in import substitutions. Some of the BEL solutions have also resulted in export orders received by the Company

BHE has formed various strategic initiatives and select partnership with Defence laboratories, the Ordnance Factory Board, DPSUs, Academia, Startups, niche technology companies and reputed global OEMs and Indian companies / agencies for addressing the emerging Defence and Non-Defence businesses, including exports.

Some of the products & systems identified and being pursued for alliances for Co-development, co-production and manufacturing ToT and for Lifecycle Support include Surface-to-Air Missile (SAM) Systems, RF /IIR Seeker, Air Defence Radars (Land and Naval based), Navigational Complex System, Sonar Systems, Next Generation Night Vision Devices, Gun Upgrades / New Gun Programmes, Small Arms for Defence, Explosives, Ammunitions, Inertial Navigation Systems, High Power

Lasers, Tethered Unmanned Aerial Vehicles 64 Annual Report 2020-21 and Swarm UAVs, Remotely Operated Vehicle (RoV), Counter Measure Systems, Electronics Systems for Futuristic AFV platforms FICV etc, Satcom Terminals, Navigation Receivers, Composite products, Rail & Metro Solutions, Liion Cells, Medical Equipment and solutions etc.

#### **Exhibit 8: Major orders executed**

FY21	Part supply of Long Range Surface-to-Air Missile (LRSAM) System, ICU Ventilators, Integrated Air Command and Control System (IACCS), Akash Missile System, Thermal Imagers for tanks, Vehicle based Shelters network (SAMYUKTA), various Radars, AFNET performance & security enhancement & SATCOM Network, Smart City Projects, Kerala Fibre Optic Network (K-FON), upgrade of the communication system (SHAKTI PH III), Coastal Surveillance System (CSS Phase II) and the Naval Airfield Integrated Security System (NAISS).
FY20	Command & Control Systems, Thermal Imagers for tanks, upgrade of Communication System, Land Based EW Systems, Weapon Repair Facility, Electronic Fuzes, various Radars, Naval Airfield Integrated Security System (NAISS), Kerala Fibre Optic Network (K-FON), Smart City Projects, Delhi CCTV Project, Schilka Upgrade, Avionics Package for Light Combat Aircraft (LCA), Classroom Jammers, Realtime Train Information System (RTIS) for Railways and Part supply of Long Range Surface-to-Air Missile (LRSAM) System.
FY19	Integrated Air Command & Control System (IACCS), Weapon Locating Radar (WLR), Cdr TI Sights, Schilka Upgrade, Tropo Upgrade, Integrated Communication System (ICS), Ground Based Mobile Elint System, Low Intensity Conflict Electronic Warfare System (LIC EWS), L-70 Gun Upgrade, Electronic Voting Machines (EVM), Voter Verifiable Paper Audit Trail (VVPAT) etc.
FY18	Integrated Air Command and Control System to Airforce, Weapon Locating Radar to Army, Hand Held Thermal Imager to Army, Akash Weapon System to Army, Fire Control System to Navy, Integrated Communication Systems to Navy, 3-D Tactical Control Radar to Army, Electronic Warfare Systems to Navy, Integrated Submarine Sonar Suite to Navy, Home Land Security to ONGC, L70 Gun Upgrade to Army, Electronic Voting Machine (EVM) & Voter Verifiable Paper Audit Trail (VVPAT) to ECI, Schilka Gun Tank upgrade to Army, Intelligence Gathering Systems to Airforce.
FY17	Akash Weapon System (Army & Airforce), Hand Held Thermal Imager with Laser Range Finder to Army, 3 Dimensional Tactical Control Radar to Army, Weapon Locating Radar to Army, Fire control Systems to Navy, Integrated Air Command and Control System to Air Force, L 70 Gun Upgrade to Army, Low Level Light Weight Radar to Airforce, Ship Borne EW System to Navy and New Generation Sonars to Navy.

#### **Exhibit 9: Major leads in pipeline for following products and systems offered to foreign countries / customers:**

- Coastal Surveillance System
- Naval Systems and Solutions
- Radar Systems and Solutions
- Upgradation of Naval Radar and Sonars
- Contract Manufacturing
- Communication Equipment's
- Electronic Warfare Avionics
- Solar Power Plants and Equipment's
- Civilian and Software solutions

Source: Company, DART

## Execution Timeline of Order backlog

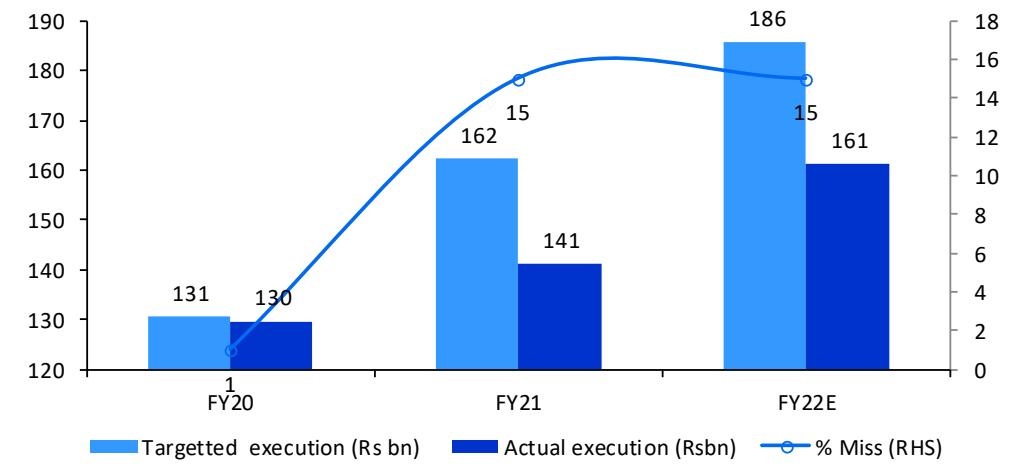
BHE receives large orders from defence, which necessitates a lengthy gestation period. BHE's current Order backlog provides revenue visibility for the next five years, with the majority of orders expected to be executed in the next three years.

### Exhibit 10: Execution timeline

Particulars (Rs bn)	O/s Order backlog as on 31 <sup>st</sup> March 2021 (Rs bn)	Execution Rate (%)			
		FY22E	FY23E	FY24E	Beyond FY24E
Executable order value (Rs bn)	535	186	123	86	140
Execution rate (%)		35	23	16	26

Source: Company, DART

### Exhibit 11: FY21 guidance miss was largely due to the disruption led by Covid



Source: Company, DART

## Relentless focus on R&D

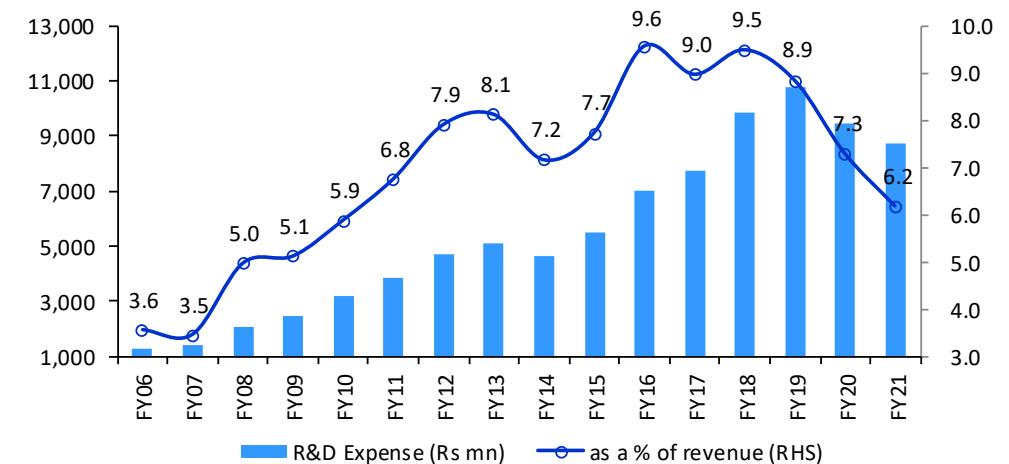
BHE's main focus area has been R&D, with the goal of increasing indigenization and value addition. During the fiscal year, total R&D investment was 6.2% of total revenue. BHE was granted three patents in FY21, bringing the total number of patents granted to thirteen. Furthermore, 97 technical papers were published in various National and International journals/seminars/conferences by BHE scientists and R&D engineers. During 2020-21, the company filed 162 IPRs (including 84 Patents).

BHE has a three-tier R&D structure, namely, the Central Research Laboratory (CRL), the Product Development and Innovation Centre (PD&IC) and the Development and Engineering (D&E) groups attached to the Strategic Business Units (SBUs) / Units. The R&D Labs (CRL/PD&IC/D&E) work in the identified technology and product areas, based on three-year R&D plans and after due approval of budget/time by competent authorities. Apart from the in-house efforts, BHE R&D engineers are collaborating with DRDO, ISRO, CSIR, other research laboratories, national and international academia, research institutes, OEMs/industry, experts/consultants, MSMEs and start-ups through collaborative R&D in niche technologies. Overall, BHE has created an ecosystem to co-create products / solutions in many business segments.

BHE R&D Cell at Kochi has realized core technology modules for sonar and simulators. BHE R&D Cell at IIT Madras Research Park is developing core technology modules for 5G communication systems.

Notably, BHE has highest spending on R&D among the DPSUs. In FY21, the R&D expense stood at 6.2% of revenues.

**Exhibit 12: DPSU with highest spend on R&D**



Source: DART, Company

**Exhibit 13: Highest ever products developed through in-house / collaborative development efforts in FY21**

Year	No. of products launched	List of products
FY21	27	Low profile Ku Band SOTM, Instant Fire Detection and Suppression System (IFDSS), Indigenous ASR-MSSR, Battle Field Surveillance Radar (Upgrade), Compact Tracking Radar (CTR) for Lynx U2 GFCS, Combat Management System for P-15B class of ships, Anti-Submarine Warfare (ASW) Fleet functionalities for CMS-17, Advanced Composite Communication System (ACCS) for P-17A, Composite Communication System (CCS) MKII, Electronic Counter Measure (ECM) Jammer MK-III, Digital Beam Former for 3D ASR, Variants of Software Defined Radios, Samyukta Electronic Warfare Non-Communication entities, Re-engineered RAWL-02-MK-II-A Radar, IFF MK-XII(S) Interrogator, Integrated Air Command and Control System (IACCS), Panoramic Night Vision Goggles (NVG), Artillery Combat Command and Control System (Shakti) Phase III, Coastal Surveillance System (CSS) Phase 2, Encryptors, Adaptive Traffic Control System (ATCS), Electric Gun and Turret Drive System, Containerised Mobile Water Purification System, Batteries, Simulator for Weapon System, Train Simulator for Mumbai Monorail, Motion-based Vehicle (bus) Driving Simulator
FY20	22	Radar for export, CSS for Maldives, Ship to Shore Communication System, Systems for Akash NG, Digital Flight Control Computer (DFCC) Mk-IA, Battlefield Surveillance System (BSS), CDMA based wireless communication system, IFDSS, Software Defined Radio (SDR)-TAC, COMNET Guinea, Missile Data Link Unit MK II, Radar Warning Receiver, Tethered UAV, Handheld Signal Generator, NAISS, IPSS, Varunastra Acoustic System (VAS), Bharani Mk-II Radar, IFF MK-XII etc
FY19	21	Drone Guard system, Coastal Surveillance System, kU Band RF seeker, Target Acquisition system, Battery multi-function Radar vehicle, Passive Night vision, Indigenous Electronic upgrade for 52 Calibre gun, un-cooled Thermal Imager, Corner short weapon; Non-Defense - Auto-Fare collection gate (Swagat), Electro-optic system for home land security, real time information system for Indian Railways, etc
FY18	23	Intelligence gathering System, Gun Fire Control System for ships, Advanced Communication network for ship, High Data Rate Ship Data Network, Compact Airborne Transmitter, Pedestal for AESA Radar, Radio with Communication on the Move capability for weapon system, Multi-Purpose Reflex Weapon Sight, Light Weight Portable Laser Target Designator, Vehicle mounted X Ray Baggage Inspection System, Electro Optic System - SCGC Topaz, Cdr TI Sight for T-72, HHTI Bi Ocular, Gunner TI Sight for T-90, EO system for Air Defence Radar, Observation Unit for BoSS, Mine Field Recording System, Radio Relay Upgrade (Low Band), Secure Phone, Handheld Digital Compass, Multi-Channel Encryptor Unit, Electronic Voting Machine-M3, VVPAT-M3
FY17	10	Weapon Locating Radar, Voter Verifiable Paper Audit Trail Mk 2, Beacon Mk III, Missile Two Way Data Link, Gigabit Ethernet Based Ship Data Network, Advanced Composite Communication System, Ship Based EW System (Varuna), Battle Field Surveillance System - XR, Hull Mounted Sonar (New Generation), Submarine Sonar Suite (USHUS 2)
FY16	15	3D surveillance radar, L-band 2D Air Surveillance Radar for Navy, Coastal Surveillance Radar, Advanced Composite Communication System, Integrated Sonar Suite for S3/S4 Platform, Integrated EW System, laser warning system
FY15	14	Schilka Air Defense System, Software Defined Radio Communication Network (Link II Mod III), Export version of Unit Level Switch Board (ULSB) Mk.III, Tactical Satellite Terminal for Akash Army, Simulator for Akash Weapon System
FY14	6	3D Tactical Control Radar, Low Level Light Weight Surveillance Radar, Missile Approach Warning System
FY13	6	National Command Control Communication and Intelligence Network (NC3I), Mobile Cellular Communication System, Passive night vision devices with XD4 technology, Point to Multi - point Radio and Mast for LORROS.
FY12	10	Coastal Surveillance System, Integrated Anti-Submarine Warfare Complex, Advanced Torpedo Defense System, Remotely Operated Vehicle and Thermal Imaging Camera for Flycatcher Radar.

Source: Company, DART

## Significant improvement in working capital

BHE's has been focusing on collections in order to improve cash flows. Though WC deteriorated in FY19, owing to a sharp increase in unbilled revenues and a reduction in advances due to weak order inflows, the intensity of Working Capital improved in FY21 due to increased customer advances and a sharp focus on collections. Notably, Rs23bn in working capital has been released in FY21.

### Exhibit 14: Sharp focus on collections

Particulars (Rs mn)	FY18	FY19	FY20	FY21
Inventories	45,794	44,434	39,583	49,680
Receivables	50,143	53,737	67,240	65,620
Contract assets	20,007	28,851	42,717	46,670
Payable	13,690	14,341	24,501	32,982
Contract liabilities	70,507	73,212	88,330	1,18,584
Core Working Capital	31,747	39,469	36,709	10,403
Core WC as a % of sales	30.5	32.4	28.3	7.4

Source: DART, Company

## Reduction in Contingent liabilities

Contingent liabilities have reduced mainly due to reduction in Claims not acknowledge as debt. As a % of Networth, it stood at 18% in FY21, compared to 22% in FY20.

### Exhibit 15: Contingent liabilities

Particulars (Rs mn)	FY17	FY18	FY19	FY20	FY21
Claims not acknowledged as debts	11,866	18,971	2,442	10,488	9,893
Outstanding Letters of Credit	3,040	2,871	3,820	8,927	7,254
Others	286	167	443	295	295
Provisional Liquidated Damages	1,605	2,211	3,896	2,485	2,631
Total	16,797	24,219	10,600	22,194	20,073
CL as a % of Networth	21.71	30.21	11.51	22.04	18.15

Source: DART, Company

## Reduction in provision for doubtful debts

One of the positive development has been significant reduction in doubtful debts by 40% YoY. As a % of revenue it stood at 1.5%, compared to an average level of 2.8% over the last four years. Consequently, this has contributed to expansion of margin by at least ~100bps YoY.

### Exhibit 16: Provision for doubtful debts

Particulars (Rs mn)	FY17	FY18	FY19	FY20	FY21
Provisions for doubtful debts, LDs, customers' claims and disallowances	2,558	2,982	3,329	3,619	2,161
as a % of revenue	3.0	2.9	2.7	2.8	1.5

Source: DART, Company

## Provisions for performance warranty largely stable

Performance warranty has remained in line with FY20, mainly due to change in contract term.

### Exhibit 17: Provisions for performance warranty

Particulars (Rs mn)	FY17	FY18	FY19	FY20	FY21
Provision for performance warranty	2876	4,061	5,064	4,478	5,071
as a % of revenue	3.3	3.9	4.2	3.5	3.6

Source: DART, Company

## Related Party Transaction

Related Party Transactions (RTP) was mainly related to Purchase and Sales of Goods to BEL Optronic Devices, BEL-THALES Systems, and GE-BE. RTP stood at 0.2% of sales implying no major concern.

### Exhibit 18: RTP not a major cause of concern

Particulars (Rs mn)	Name of the party	FY17	FY18	FY19	FY20	FY21
<b>Purchase of goods</b>	BEL Optronic Devices	600.1	505.7	369.5	56.6	118.3
	BEL -THALES Systems	0	0	0	237.9	231.3
	GE BE Private	0	0	0	0	0
	Defence Innvo. Org	0	0	0	0	0
<b>% of revenue</b>		<b>0.7</b>	<b>0.5</b>	<b>0.3</b>	<b>0.2</b>	<b>0.2</b>
<b>Sales of goods</b>	BEL Optronic Devices	0	0.4	0	0	0
	BEL -THALES Systems	0	0	3	58.6	31.6
	GE BE Private	319.7	265.2	247.7	251.9	175.8
	Defence Innvo. Org	0	0	0	0	0
<b>% of revenue</b>		<b>0.4</b>	<b>0.3</b>	<b>0.2</b>	<b>0.2</b>	<b>0.1</b>

Source: Company, DART

## Auditors remuneration

The majority of auditor remuneration (70% of total auditor remuneration) was for audit purpose. In FY21, auditors were paid a total of Rs5.4mn, which is less than 0.1% of revenue and thus appears reasonable.

### Exhibit 19: Auditors remuneration appears reasonable

Particulars (Rs mn)	FY17	FY18	FY19	FY20	FY21
Audit fees	1.3	1.9	2.0	2.1	2.7
Tax audit fees	0.2	0.5	0.4	0.4	0.7
Other services (Certification fees)	0.2	0.3	0.4	0.6	1.0
Reimbursement of expense	0.6	0.4	0.6	1.0	0.6
Cost audit fees	0.4	0.4	0.4	0.4	0.4
<b>Total auditor's remuneration</b>	<b>2.7</b>	<b>3.5</b>	<b>3.8</b>	<b>4.5</b>	<b>5.4</b>

Source: DART, Company

## Currency risk

The Group's exposure to foreign currency risk in respect of major currencies is given below:

### Exhibit 20: Foreign currency analysis

Particulars	As of 31 March 2021					As of 31 March 2020				
	USD	EURO	GBP	CHP	J Yen	USD	EURO	GBP	CHP	J Yen
Trade Payable	615	163	22	11	117	1,609	175	14	22	136
Trade Receivable	275	23	0	0	0	267	6	0	0	0
<b>Net Exposure</b>	<b>340</b>	<b>140</b>	<b>22</b>	<b>11</b>	<b>117</b>	<b>1,342</b>	<b>169</b>	<b>14</b>	<b>22</b>	<b>136</b>

Source: DART, Company

The sensitivity of profit or loss to changes in the exchange rate arises mainly from foreign currency denominated financial instruments. The sensitivity to variations in respect of major currencies is given below. This analysis assumes that all other variables remain constant.

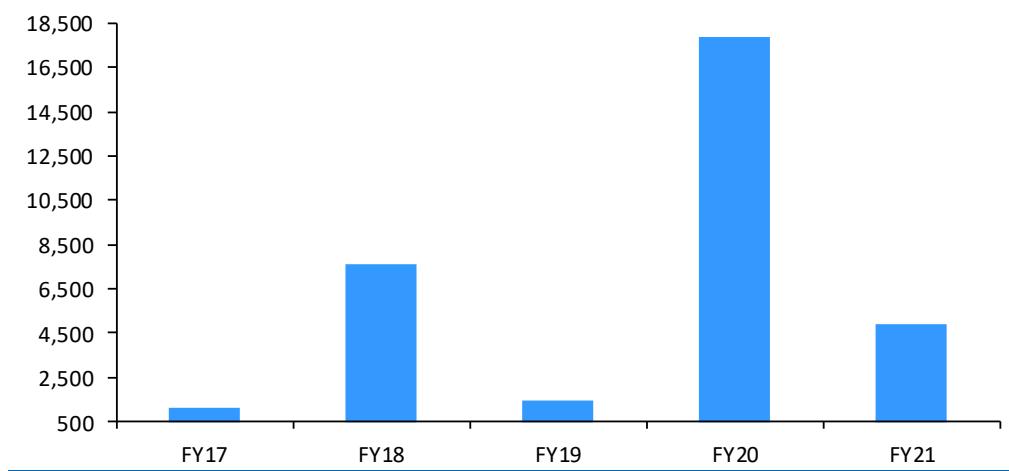
### Exhibit 21: Sensitivity analysis

Particulars (Rs mn)	Impact on Profit	
	As of 31 March 2021	As of 31 March 2020
USD – Increase by 5%	126	512
USD – Decrease by 5%	(126)	(512)
EURO – Increase by 5%	60	56
EURO – Decrease by 5%	(60)	(56)
GBP – Increase by 5%	11	7
GBP – Decrease by 5%	(11)	(7)
CHF – Increase by 5%	4	9
CHF – Decrease by 5%	(4)	(9)
J Yen – Increase by 5%	0	1
J Yen – Decrease by 5%	(0)	(1)

## Retention sales

The Value of Retention Sales (i.e., Goods retained with the Company at the Customers' request and at their risk) included in Gross Turnover during the year was Rs4,930mn (Rs17,832mn). Out of the above, the Value of Ex-Works Sales is Rs688mn (Rs2,996mn).

### Exhibit 22: Trends in retention sales (Rs. Mn)



Source: Company, DART

## Financial Statement analysis

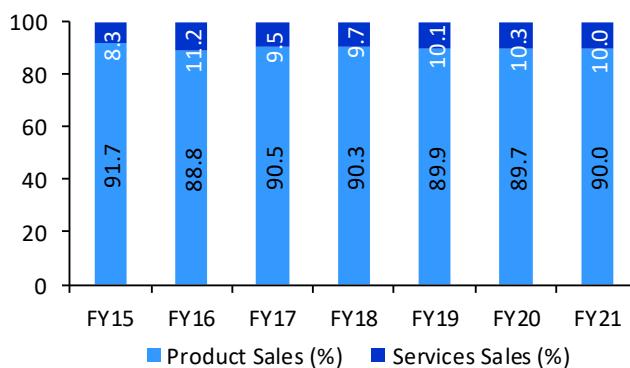
### Profit and Loss

**Order book** - The company had an order backlog of Rs534bn as of 31<sup>st</sup> March 2021, translating into Book/Bill ratio of 3.8x (OB stands at Rs545bn as of 31<sup>st</sup> June 2021). The order book comprises major programs like Long Range Surface-to-Air Missile System (LRSAM), the Akash Missile Systems, Command & Control System, Battle Field Surveillance Systems, Fire Control Systems, Software Defined Radios, Coastal Surveillance Systems, Advance Composite Communication System, Naval Systems, Electronic Warfare Suite etc.

The Company received orders inflows of Rs153bn during the year. Major Orders received include AFNET Performance & Security Enhancement and SATCOM Network, Ventilators including Services, Naval Fire Control System, Software Defined Radio, Advance Torpedo Defence Systems, Digital Mobile Radio Relay etc.

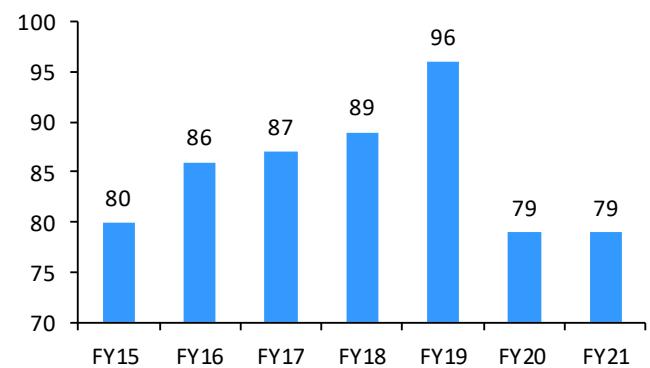
**Revenue** - BHE registered a revenue growth of 8.8% YoY to Rs141bn in FY21. The revenue from indigenously developed products was 79%. Contribution for Defence supplies was at 78% of the turnover in FY21 compared to 82% in the previous year. Value of production increased from Rs123bn in FY20 to Rs139bn in FY21, up by 12.9%.

**Exhibit 23: Services revenue have remained flat**



Source: DART, Company

**Exhibit 24: Thrust on indigenization (%)**



Source: DART, Company

**EBITDA** – BHE's EBITDA grew by 16.6% to Rs32bn. Despite headwinds, company was able to manage its cost relatively better with margin up by ~150bps YoY at 22.8%.

**PAT** – Adj. PAT grew by 15% to Rs21bn, compared to Rs18bn. EPS stood at Rs8.6, vs Rs7.5 in FY20. The company declared a total dividend of Rs4.0 per share, resulting in outflow of Rs9,746mn

### Balance Sheet and Cash flow

**Share Capital** - The Paid-up Equity Share Capital of the Company as on March 31, 2021 was Rs2437mn. There was no change in the company's share capital during the year under review.

**Gross block** increased by 5% to Rs49bn in FY21 from Rs47bn in FY20.

**Working capital** - Inventories increased by 26% YoY to Rs49.6bn. Inventory days stood at 129 days. Receivables declined marginally by 2% YoY to Rs66bn. Debtor days

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reduced to 170 days from 189 days last year. Creditors increased by 35% YoY to Rs33bn with payable days at 85 days compared to 69 days last year.

**Net Cash flow from operations** improved to Rs51bn in FY21 (vs Rs26bn in FY20). Capital expenditure stood at Rs4.7n in FY21. FCF increased to Rs25bn (vs Rs19bn in FY20).

**Profit and Loss Account**

(Rs Mn)	FY21A	FY22E	FY23E	FY24E
<b>Revenue</b>	<b>141,087</b>	<b>161,218</b>	<b>177,412</b>	<b>194,972</b>
<b>Total Expense</b>	<b>108,982</b>	<b>125,866</b>	<b>137,670</b>	<b>150,440</b>
COGS	78,260	92,378	101,657	111,719
Employees Cost	19,559	20,732	21,976	23,295
Other expenses	11,163	12,755	14,036	15,426
<b>EBIDTA</b>	<b>32,105</b>	<b>35,353</b>	<b>39,742</b>	<b>44,532</b>
Depreciation	3,873	3,922	4,134	4,598
<b>EBIT</b>	<b>28,232</b>	<b>31,431</b>	<b>35,608</b>	<b>39,934</b>
Interest	64	67	70	74
Other Income	1,250	1,475	1,696	1,899
Exc. / E.O. items	0	0	0	0
<b>EBT</b>	<b>29,418</b>	<b>32,839</b>	<b>37,234</b>	<b>41,760</b>
Tax	8,724	8,538	9,383	10,523
RPAT	20,998	24,635	28,252	31,678
Minority Interest	0	0	0	0
<b>Profit/Loss share of associates</b>	<b>304</b>	<b>335</b>	<b>402</b>	<b>442</b>
<b>APAT</b>	<b>20,998</b>	<b>24,635</b>	<b>28,252</b>	<b>31,678</b>

**Balance Sheet**

(Rs Mn)	FY21A	FY22E	FY23E	FY24E
<b>Sources of Funds</b>				
Equity Capital	2,437	2,437	2,437	2,437
Minority Interest	150	150	150	150
Reserves & Surplus	108,159	122,940	139,892	158,898
<b>Net Worth</b>	<b>110,596</b>	<b>125,377</b>	<b>142,328</b>	<b>161,335</b>
Total Debt	0	0	0	0
Net Deferred Tax Liability	15,856	17,169	18,769	18,769
<b>Total Capital Employed</b>	<b>126,601</b>	<b>142,696</b>	<b>161,247</b>	<b>180,254</b>

**Applications of Funds**

Net Block	<b>31,373</b>	<b>34,451</b>	<b>38,317</b>	<b>41,719</b>
CWIP	3,975	3,975	3,975	3,975
Investments	22,416	23,751	24,825	25,990
<b>Current Assets, Loans &amp; Advances</b>	<b>237,156</b>	<b>266,030</b>	<b>298,276</b>	<b>332,923</b>
Inventories	49,680	55,212	60,758	66,771
Receivables	65,620	81,713	87,491	96,151
Cash and Bank Balances	50,738	54,017	69,827	81,862
Loans and Advances	71,118	75,088	80,200	88,138
Other Current Assets	0	0	0	0
<b>Less: Current Liabilities &amp; Provisions</b>	<b>168,318</b>	<b>185,511</b>	<b>204,146</b>	<b>224,352</b>
Payables	32,982	44,169	48,606	53,417
Other Current Liabilities	135,336	141,342	155,540	170,935
<i>sub total</i>				
Net Current Assets	68,838	80,519	94,130	108,571
<b>Total Assets</b>	<b>126,601</b>	<b>142,696</b>	<b>161,247</b>	<b>180,254</b>

E – Estimates

**Important Ratios**

Particulars	FY21A	FY22E	FY23E	FY24E
<b>(A) Margins (%)</b>				
Gross Profit Margin	44.5	42.7	42.7	42.7
EBIDTA Margin	22.8	21.9	22.4	22.8
EBIT Margin	20.0	19.5	20.1	20.5
Tax rate	29.7	26.0	25.2	25.2
Net Profit Margin	14.9	15.3	15.9	16.2
<b>(B) As Percentage of Net Sales (%)</b>				
COGS	55.5	57.3	57.3	57.3
Employee	13.9	12.9	12.4	11.9
Other	7.9	7.9	7.9	7.9
<b>(C) Measure of Financial Status</b>				
Gross Debt / Equity	0.0	0.0	0.0	0.0
Interest Coverage	443.2	469.9	507.0	541.6
Inventory days	129	125	125	125
Debtors days	170	185	180	180
Average Cost of Debt				
Payable days	85	100	100	100
Working Capital days	178	182	194	203
FA T/O	4.5	4.7	4.6	4.7
<b>(D) Measures of Investment</b>				
AEPS (Rs)	8.6	10.1	11.6	13.0
CEPS (Rs)	10.2	11.7	13.3	14.9
DPS (Rs)	4.0	4.0	4.6	5.2
Dividend Payout (%)	46.4	40.0	40.0	40.0
BVPS (Rs)	45.4	51.5	58.4	66.2
RoANW (%)	19.9	20.9	21.1	20.9
RoACE (%)	17.2	18.1	18.4	18.3
RoAIC (%)	32.4	38.2	39.5	42.1
<b>(E) Valuation Ratios</b>				
CMP (Rs)	199	199	199	199
P/E	23.0	19.6	17.1	15.3
Mcap (Rs Mn)	483,907	483,907	483,907	483,907
MCap/ Sales	3.4	3.0	2.7	2.5
EV	433,170	429,890	414,080	402,045
EV/Sales	3.1	2.7	2.3	2.1
EV/EBITDA	13.5	12.2	10.4	9.0
P/BV	4.4	3.9	3.4	3.0
Dividend Yield (%)	2.0	2.0	2.3	2.6
<b>(F) Growth Rate (%)</b>				
Revenue	8.8	14.3	10.0	9.9
EBITDA	16.6	10.1	12.4	12.1
EBIT	18.5	11.3	13.3	12.1
PBT	18.7	11.6	13.4	12.2
APAT	15.1	17.3	14.7	12.1
EPS	15.1	17.3	14.7	12.1

**Cash Flow**

(Rs Mn)	FY21A	FY22E	FY23E	FY24E
CFO	50,932	20,155	34,585	33,871
CFI	(25,952)	(7,022)	(7,474)	(9,164)
CFF	(10,757)	(9,854)	(11,301)	(12,671)
FCFF	25,025	13,183	27,164	24,761
Opening Cash	16,605	50,738	54,017	69,827
Closing Cash	50,738	54,017	69,827	81,862

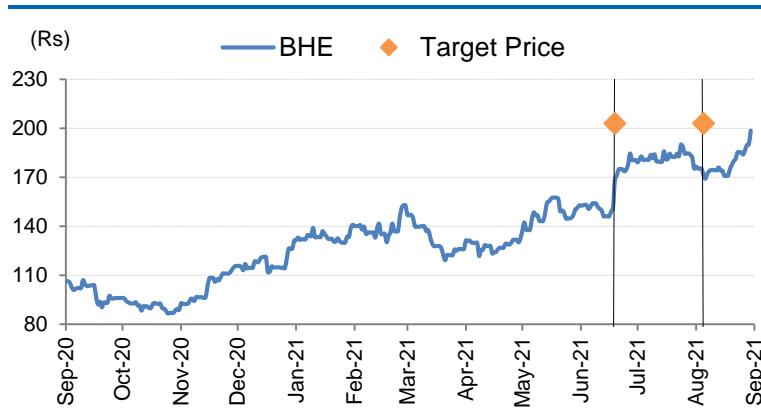
E – Estimates

## **DART RATING MATRIX**

### Total Return Expectation (12 Months)

Buy	> 20%
Accumulate	10 to 20%
Reduce	0 to 10%
Sell	< 0%

## Rating and Target Price History



*\*Price as on recommendation date*

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