

BSE SENSEX 59,500 S&P CNX 17,649

CMP: INR866 TP: INR1015 (+17%)

Buy



Stock Info

	BHFC IN
Bloomberg	BHFC IN
Equity Shares (m)	466
M.Cap.(INRb)/(USDb)	403 / 4.9
52-Week Range (INR)	920 / 596
1, 6, 12 Rel. Per (%)	1/15/16
12M Avg Val (INR M)	1159
Free float (%)	54.8

Financials Snapshot (INR b)

Y/E March	2022	2023E	2024E
Sales	104.6	127.2	141.7
EBITDA	18.9	17.8	20.7
Adj. PAT	10.1	10.2	16.0
Cons. Adj. EPS (INR)	21.7	21.8	34.4
EPS Gr. (%)	1047.8	0.7	57.7
BV/Sh. (INR)	141	157	185

Ratios

RoE (%)	16.9	14.7	20.2
RoCE (%)	10.5	9.1	13.0
Payout (%)	23.2	28.8	18.2

Valuations

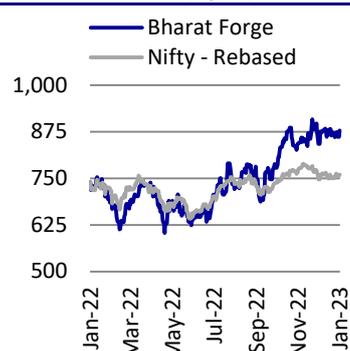
P/E (x)	39.9	39.6	25.1
P/BV (x)	6.1	5.5	4.7
EV/EBITDA (x)	22.9	20.2	15.2
Div. Yield (%)	0.6	0.7	0.7

Shareholding pattern (%)

As On	Dec-22	Sep-22	Dec-21
Promoter	45.3	45.3	44.8
DII	26.1	24.7	20.2
FII	18.1	19.3	23.4
Others	10.6	10.7	11.7

FII Includes depository receipts

Stock Performance (1-year)



Evaluating optionality in Defence and EVs

Option value of INR125-170/share just for two guns and TORK Motors

Over the last decade, Bharat Forge (BHFC) has developed new frontiers for growing beyond its core business, with investments in capabilities and capacities in place. Some of these new businesses offer huge potential in the long term and scope to drive the next phase of evolution for the company. Of these new initiatives, we expect opportunities in Defence and EV are at infection points, though substantial realization of value might be back-ended. We took a deep dive into these two businesses to evaluate prospects for value creation, which we estimate at INR125-170/share from just two guns and TORK Motors.

Defence – Set to benefit from investments made over last decade

- BHFC incubated the defence business 10 years ago. The company has a four-pronged strategy for defence: 1) artillery guns, 2) protected vehicles, 3) MRO & supplies, and 4) unmanned vehicles.
- In artillery guns, it has eight platforms, for which IP is with BHFC and testing is done. Of the eight platforms, we see two of them nearing the ordering stage from the Indian Army: Advanced Towed Artillery Gun System (ATAGS) and Garuda V2. BHFC also has got a USD155m export order for MaRG-BR.
- Based on our analysis of the existing fleet and Request For Information (RFI) of the Indian Army, we see potential for BHFC's ATAGS (155mm, 52 caliber) and Garuda V2 mounted guns (105mm, 37 caliber). Assuming a 10-year project for gun supply (1,500 units for ATAGS in a duopoly and 1,700 units of Garuda V2 as a single source supplier) and a 25-year AMC, we estimate option value from these two guns at INR100-132/share for BHFC.
- Apart from these two guns, BHFC has six more guns, which is the widest bouquet of artillery guns on offer in India. We have not considered export potential of these eight guns, as well as opportunities in the domestic market for other six guns, due to limited visibility on commercialization of these guns.
- We have not considered opportunities in supplies of ammunition and MRO, which are a big part of defence procurement and targeted areas of BHFC.

EVs – Multi-pronged approach to benefit from disruption

- BHFC is approaching the opportunity arising from EV disruption in multiple ways viz 1) EV components, 2) e-2Ws (through TORK Motors), 3) EV retrofitment for CVs, and 4) light-weighting opportunities.
- In EV components, BHFC focuses on power electronics, traction/drivetrain, mechanical (light-weighting) and energy storage (BMS, battery pack). It has several partnerships in place for this segment. Over the last five years, BHFC has systematically invested in building its product portfolio in EV components through a mixture of partnerships/JVs (Refu Drive, Harbinger Motors), acquisitions (Tevva Motors, Tork Motors), and in-house development (US/UK tech center, CLWT India). BHFC's recent JV, ElectroForge (with Harbinger Motors, US), plugs the gap in its portfolio by bringing in a high-power traction motor controller.

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Investors are advised to refer through important disclosures made at the last page of the Research Report.

Motilal Oswal research is available on www.motilaloswal.com/Institutional-Equities, Bloomberg, Thomson Reuters, Factset and S&P Capital.

“We are in the process of setting up the world’s largest artillery manufacturing capacity. In three years from now, we will produce one gun per day. The capital investment has already been done. Now we need to increase the volumes.” Mr Baba Kalyani, Chairman, Bharat Forge

“We have collaborated with Kalyani Group to build a range of systems for the world. We believe that India can become one of the largest defence exporters and so we invested here. It is not only an opportunity for Indian forces but also export. We are collaborating with Kalyani for a portfolio of orders for M4 from Central Asia, Africa and Middle East.” Ivor Ichikowitz, Paramount Group Founder

- While BHFC has solutions for all the segments of autos, its focus area is CVs and 3Ws. Given high competitive intensity in an emerging segment, we are not yet giving any option value to this business for BHFC.
- TORQ Motors, a 60% subsidiary focused on electric motorcycles, is gradually scaling up and has appointed dealers in three cities (beyond Pune), as it received FAME-2 certification in Oct’22. Its product is focused on 150-200cc segment motorcycles, where competition is low with just three to four players offering electric motorcycles. Based on our expectation of 20% EV penetration in the 150-200cc motorcycle segment by 2030 and TORQ having a 20% market share, we estimate option value of INR25-40/share for BHFC.
- It is also targeting opportunities in converting existing ICE ICVs into EVs, and is the first to get AIS123 (EV retro-fitment) certification in India. Its plant would be ready in 1QCY23 with a capacity of 1,000 units per annum. We believe this could be a transitory opportunity; however, due to a lack of clarity on economics, we are not yet assigning any optionality to this opportunity.
- The light-weighting opportunity emerging from EVs will be addressed through aluminium (Al) as salience of Al is expected to go up substantially. BHFC offers Al forging (EU and US) and Al die-casting (India). Al forging subsidiaries are already part of our consolidated estimates and we expect an over 2x increase in revenue/PAT, led by the full ramp-up of new capacities in the next 2-3 years.

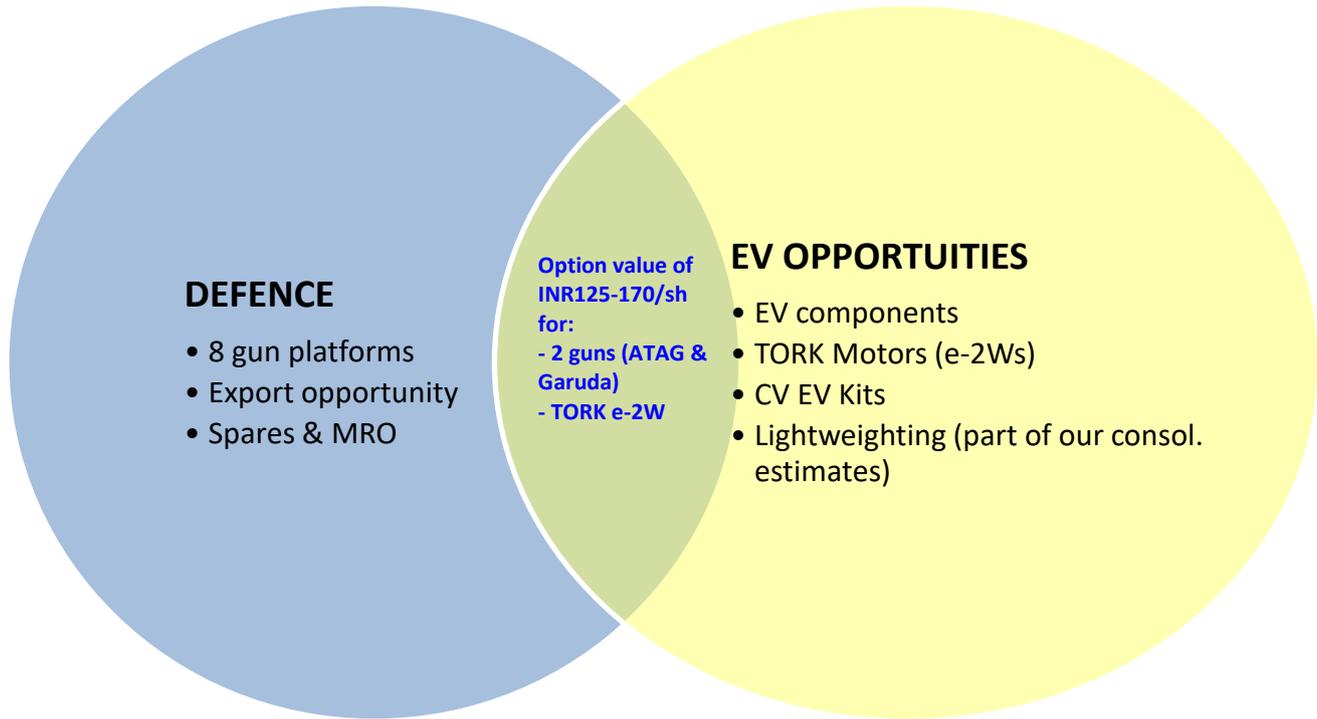
Defence – Could ESG considerations lead to de-rating?

- The prime concern of investors on BHFC’s foray in defence, particularly artillery guns, is about the risk of de-rating due to ESG considerations.
- As per our analysis, in the global defence industry, we could not find any player with a significant presence in offensive products trading at a material discount to their 5-year or 10-year average valuations (P/B and EV/EBITDA).
- Unlike these defence-focused companies, BHFC will continue to generate sizeable revenue (over 80% of consol) from the non-defence segment even after factoring in opportunities from the two gun platforms. Hence, we see limited risk of de-rating due to increasing defence revenues.

Valuation and view

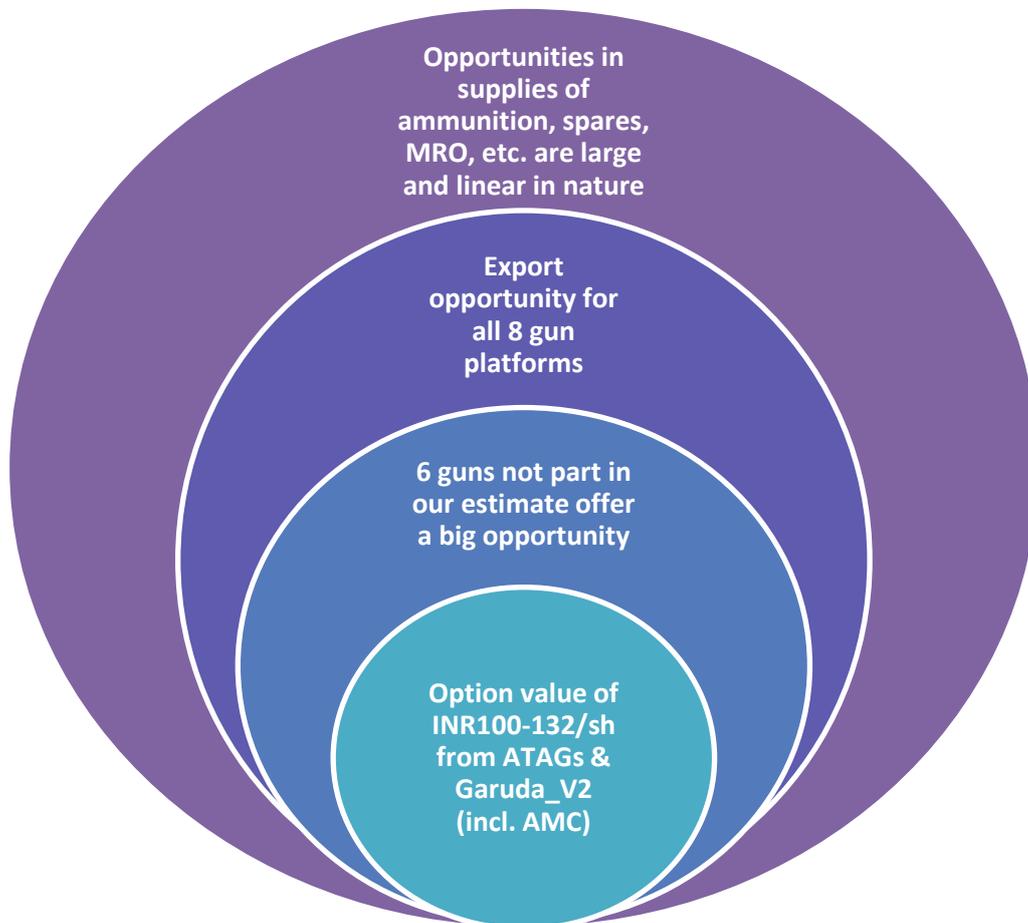
- While BHFC’s core business is seeing a cyclical recovery, the underlying macro-environment in the US and EU is weakening.
- However, these new businesses incubated in the last 5-10 years are at their inflection points and could more than dilute any weakness expected in its core businesses. Of these new businesses, we expect industrials and aluminum businesses to see a sharp scale-up over the next couple of years. The Defence business is ready to take off and is waiting for orders to come in. The E-mobility business offers a big opportunity and has building blocks in place, but the competitive landscape is yet to evolve.
- We estimate a consolidated revenue/EBITDA/PAT CAGR of 11%/23%/39% over FY23-25E. The stock trades at 25.1x/20.4x FY24E/FY25E consolidated EPS. We reiterate our Buy rating with a TP of INR1015 (at 25x Dec’24E EPS).

Exhibit 1: Estimate option value from 2 guns and e-2Ws at INR125-170/share for BHFC



Source: MOFSL

Exhibit 2: We estimate option value from two artillery guns at INR100-132/share



Source: MOFSL

Exhibit 3: NPV for two artillery guns is estimated at INR101/share (incl. AMC business)

Assumptions	ATAGs	Garuda V2
Total requirement (units)	1500	1700
Tenure of the project (years)	10	10
Cost per gun (INR m)	180	123.75
BHFC position	L2	Only player
Order split for L2	30%	1
Forging content (% of gun value)	25%	20%
Cost of Equity	12%	12%
NPV for project business (INR/Sh)	29	39
AMC @ 7% of value for 25 years (INR/sh)	10	23
Total NPV for Guns (INR/sh)	39	62

Source: MOFSL

Exhibit 4: BHFCs three pronged approach to defence, with a fourth vertical for future underworks



Source: Company, MOFSL

“And we make things I mean the ATAGS gun is of course designed by the DRDO. So we work with DRDO on that but there are another five platform that we have designed on our own with our own technology, and our own intellectual property. And I don't think there is a company in India who has done this. Not a single one.”
 Mr Baba Kalyani, Chairman, Bharat Forge

Exhibit 5: BHFC has strongest portfolio of artillery guns...

	Self-propelled	Towed	Mounted
105mm		OFB	BHFC
155mm/39		BAE-Mahindra Defence BHFC	BHFC
155mm/45		OFB BHFC	
155mm/52	Hanwha-L&T	OFB BHFC DRDO-BHFC DRDO-Tata	BHFC (2) OFB-Tata

Source: Company, MOFSL

Exhibit 6: ...with eight guns at various stages of commercialization

ATAGS 	MGS ATAGS – 8X8 	ULH (High Strength Steel) 	Garuda 105_v2 
Successfully Trial Evaluated Awaiting Induction	Ordnance Successfully Test Fired	Successfully Test Fired	Successfully Trial Evaluated
BHARAT 52 	BHARAT 45 	ULH (Extended Range) 	MaRG - BR (155mm /39 Cal) 
Successfully Test Fired	Proven Weapon Platform	Ordnance Test Fired	Successfully Trial Evaluated

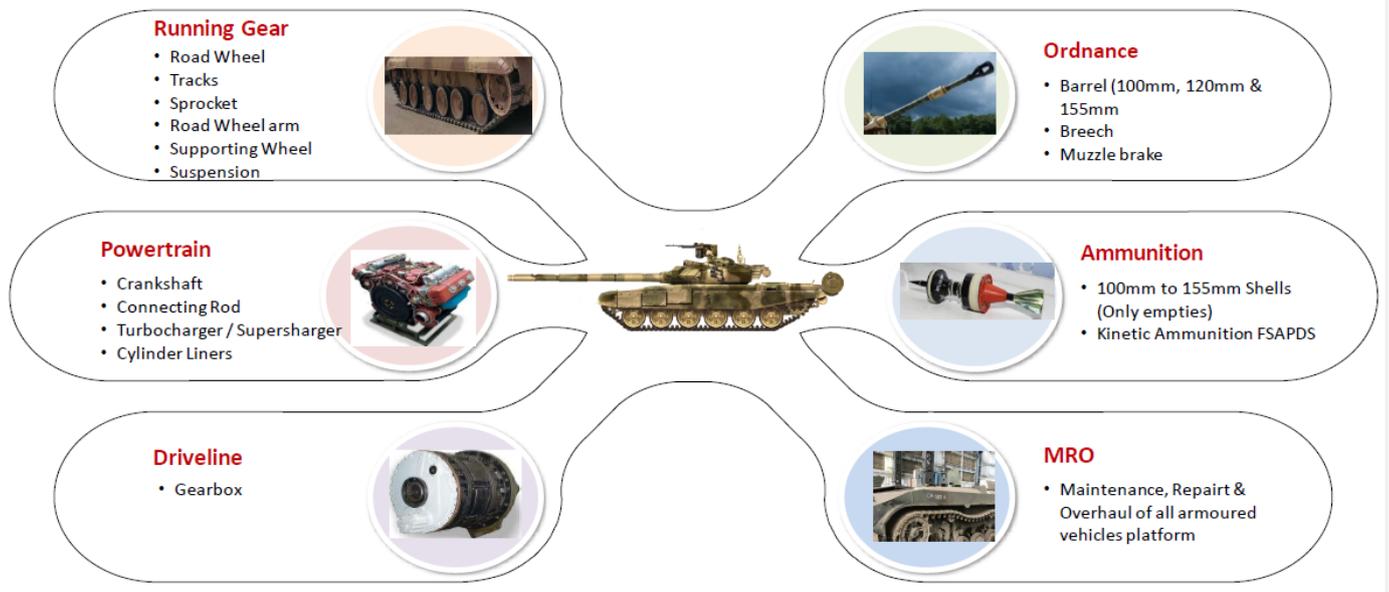
Source: Company, MOFSL

Exhibit 7: ATAGS and Garuda seem to be most promising opportunities in the domestic market

Products	Specs	Status	Possible target segment	Qty in service	Remarks
ATAGS 155mm/52	155mm/52	Successfully trialled, evaluated & awaiting induction	130mm M-46 Russian gun. 155mm FH77B Swedish Bofors Gun	1510	❖ System has ability to fire up to Zone 7 charge. Tata Power SED is competitor based on same DRDO technology.
Garuda 105_v2	105mm/37	Successfully trialled & evaluated; Also, trialled by few countries like USA, Saudi Arabia etc	105mm gun 120mm mortar	1700 field guns 900 static guns	❖ Ultra-light weight gun system, with shoot & scoot capabilities.
MaRG 155-BR	155mm/39	Successfully trialled & evaluated; Export order received			❖ Worlds only 155mm 39 calibre gun system that is mounted on 4x4 high mobility vehicle, giving it shoot & scoot capability.
MAG-ER 155 ULH	155mm/52	Proof-firing trials are on-going			❖ Ultra-light weight gun system with <8 tons weight
Bharat ULH 155mm 39 CAL	155mm/39	Successfully test fired			❖ Extremely light weight: Weighs 6.8 tonnes
Bharat 52	155mm/52	Successfully test fired			❖ Shoot and scoot capability; Self-propelled capability with a speed of 21 kmph.
Bharat 45	155mm/45	Proven weapon platform			❖ Self-propelled capability with a speed of 25 kmph.
MGS 8x8 HMV	155mm/52	Ordnance successfully test fired		814	❖ Indian Army has issued RFI in Apr-21. Possible alternates are Dhanush, Nexter-L&T, Denel-Tata etc.

Source: Company, MOFSL

Exhibit 8: Supplies. Spares and MRO offer very large opportunity with high longevity



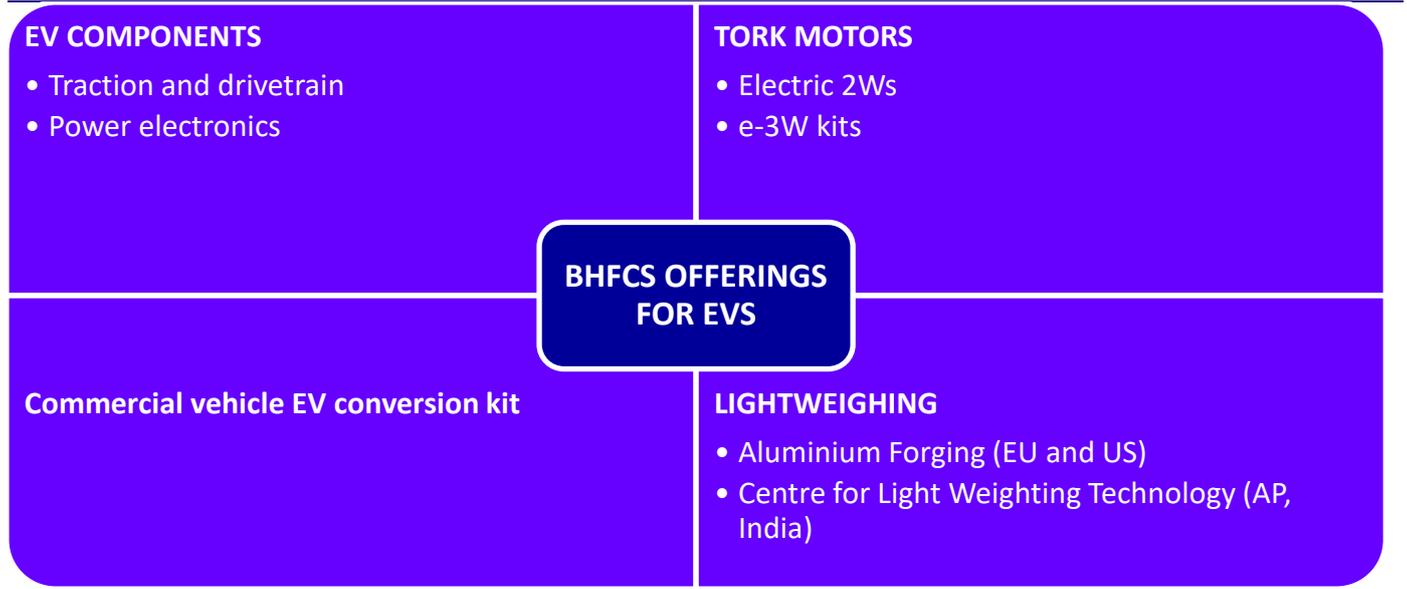
Source: Company, MOFSL

Exhibit 9: BHFC has very large portfolio of armored vehicle

<p>Kalyani M-4</p> <p>Inducted in Indian Army Exported</p>	<p>Kalyani Maverick</p> <p>Successfully Tested by Indian & Military Agencies</p>	<p>TC 6 : Light Tactical Vehicle</p> <p>Successfully Tested by Indian & Military Agencies Ongoing supplies for 50+ vehicles</p>	<p>TC 6 : Garuda 105</p> <p>Successfully Trail Evaluated</p>	<p>TC6 : Light Bullet Proof Vehicle</p> <p>Tested by Indian Army & VRDE</p>
<p>Ultra Light Strike Vehicle</p> <p>Successfully Tested by Indian Military Agencies</p>	<p>Mine Protected Vehicle</p> <p>Successfully Tested by Indian Military Agencies</p>	<p>Armoured Personnel Carrier</p> <p>Successfully Tested by Indian Military Agencies Exported</p>	<p>Armoured Troop Carrier</p> <p>Successfully Tested by Indian & Sri Lankan Military Agencies Exported</p>	<p>TC 8 : Light Armour Troop Carrier</p> <p>Platform Tested by Indian Military Agencies</p>

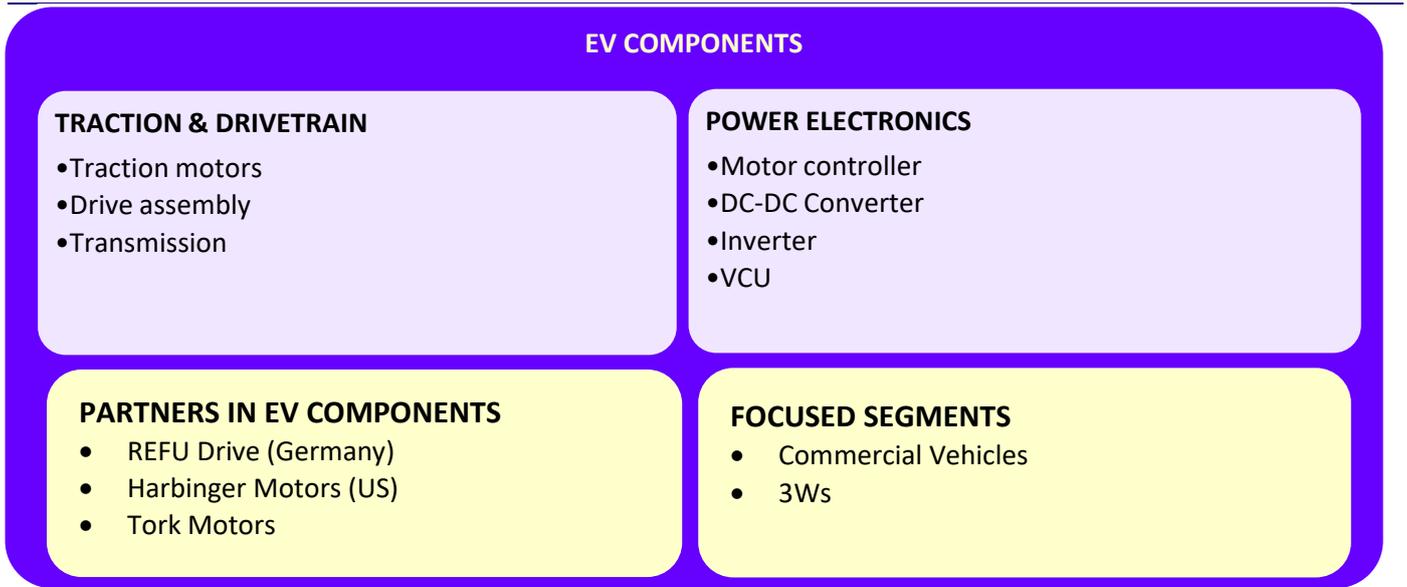
Source: Company, MOFSL

Exhibit 10: BHFC offers broad gamut of solutions for the electric vehicles



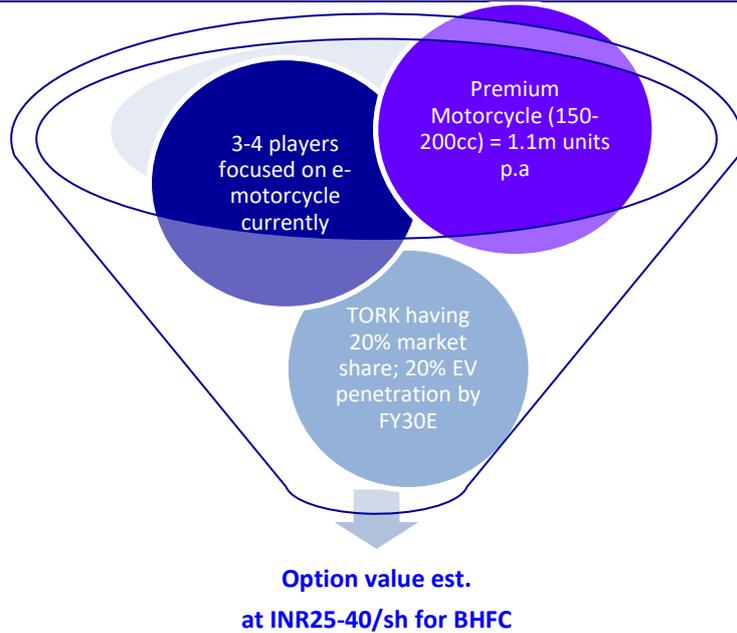
Source: Company, MOFSL

Exhibit 11: BHFC offers broad gamut of solutions for the electric vehicles



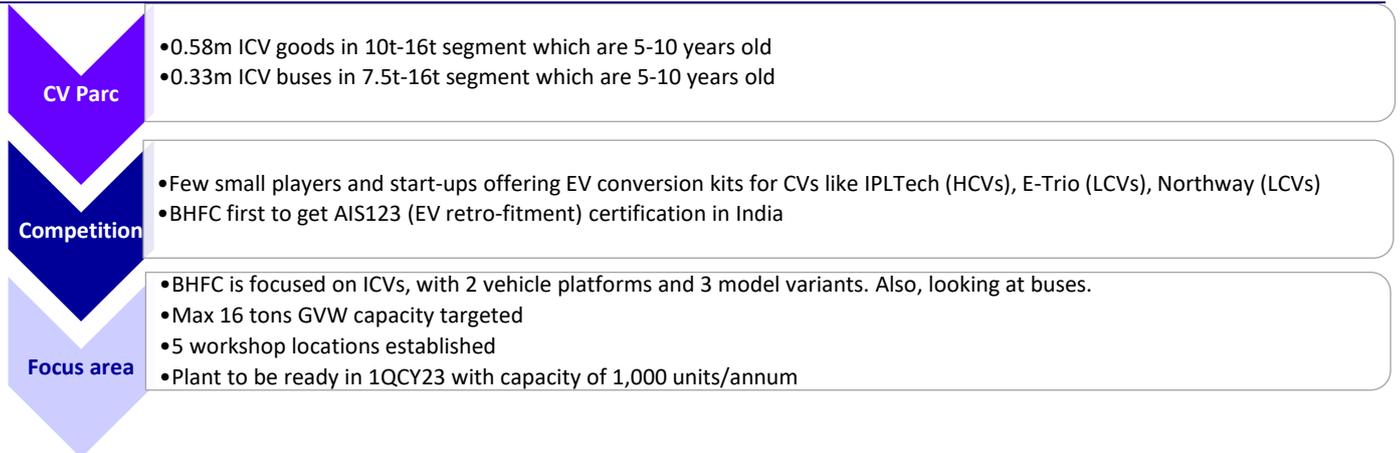
Source: Company, MOFSL

Exhibit 12: TORK Motors option value is estimated at INR25-40/share for BHFC



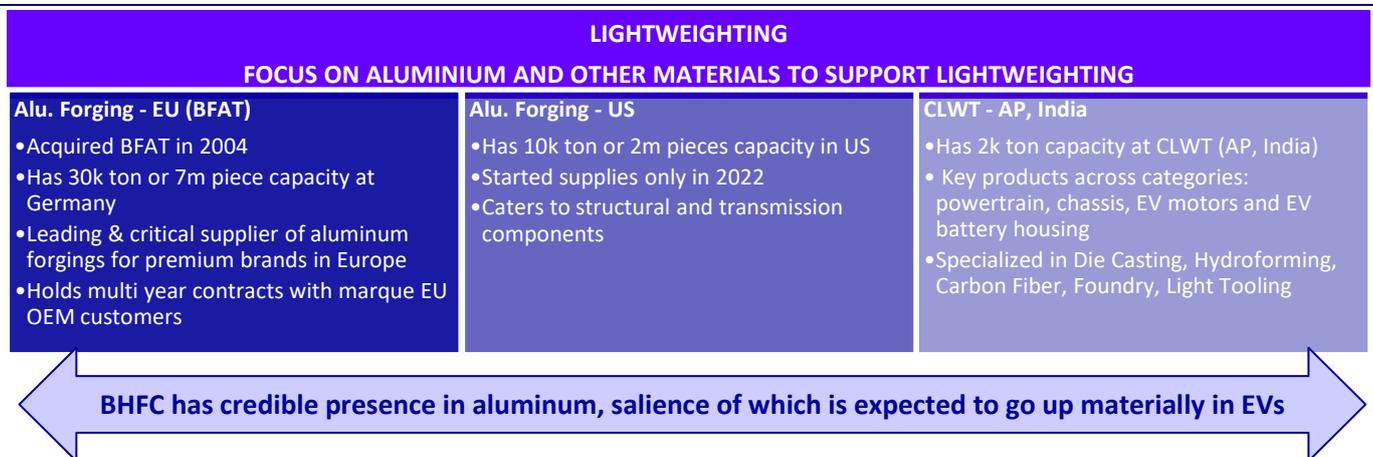
Source: MOFSL

Exhibit 13: BHFC is the only reputed player to offer EV conversion kit for CVs



Source: Company, MOFSL

Exhibit 14: BHFC offers several solutions for lightweighting



Source: Company, MOFSL

Exhibit 15: Global listed defence companies have not seen any major de-rating due to ESG

Companies	Price to Book (x)			EV/EBITDA (x)		
	Current	5 Yr Avg	10 Yr Avg	Current	5 Yr Avg	10 Yr Avg
Dassault Aviation	2.0	2.0	2.0	10.8	10.1	10.7
AeroVironment	2.9	3.4	2.9	22.8	25.0	23.4
BAE Systems	2.8	3.1	3.8	9.4	8.3	7.9
General Dynamics	3.6	3.7	3.5	13.8	12.1	10.7
Lockheed Martin	14.7	24.8	22.1	13.8	11.7	10.8
Northrop Grumman Corp	5.7	5.2	4.8	17.7	13.4	11.6
Rheinmetall	2.7	1.9	1.6	8.2	5.9	5.6
Raytheon Technologies	2.0	1.7	1.7	14.2	11.7	10.8
Saab AB	2.0	2.0	1.9	7.4	11.4	9.7

Source: Bloomberg, MOFSL

Exhibit 16: P/E chart

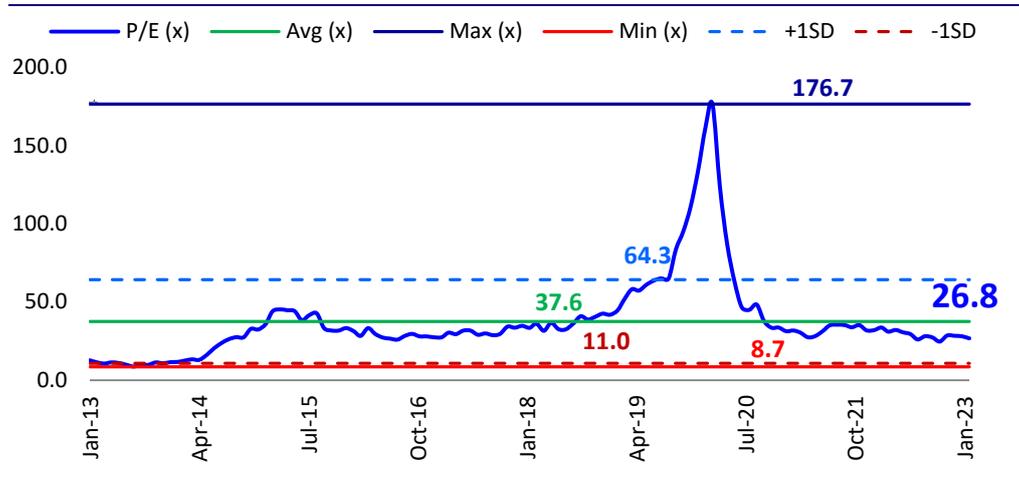
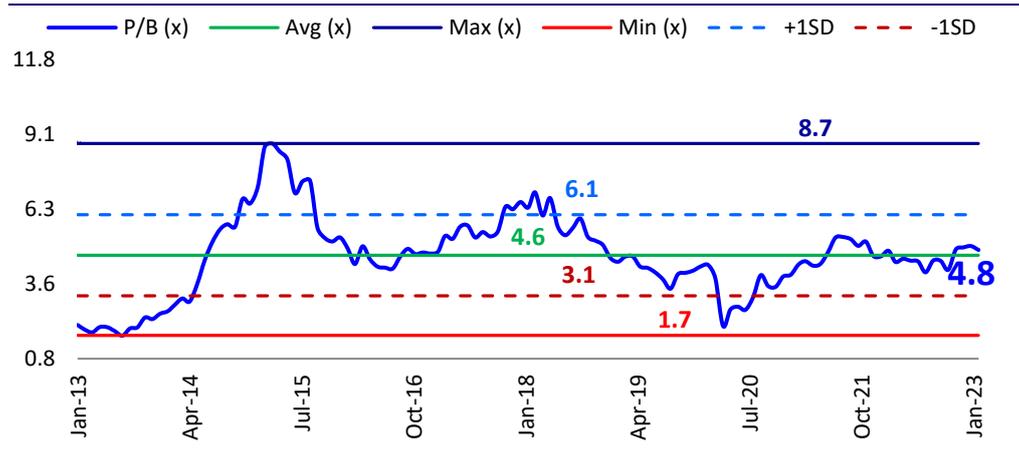


Exhibit 17: P/B chart



Source: MOFSL

Key operating metrics

Revenue model

INR m	FY19	FY20	FY21	FY22	FY23E	FY24E	FY25E
Autos	34,148	25,194	21,359	33,143	41,786	44,595	49,042
% of total revenues	56	60	62	56	60	57	56
CV	26,900	17,884	14,702	24,597	28,688	29,702	32,362
% of total revenues	44	43	43	42	41	38	37
PV	7,248	7,310	6,657	8,546	13,098	14,893	16,680
% of total revenues	12	17	19	15	19	19	19
Non-Autos	26,565	16,811	13,001	25,573	28,296	33,211	38,142
% of total revenues	44	40	38	44	40	43	44
Market mix (net sales incl Op Income)							
India	27,942	19,137	16,873	25,737	31,352	36,619	42,555
% of total revenues	43	42	46	41	42	45	46
Growth (%)	19	-32	-12	53	22	17	16
Exports	37,258	26,502	19,642	36,699	43,150	45,562	49,430
% of total revenues	57	58	54	59	0	0	0
Growth (%)	25	-29	-26	87	0	0	0
Total Net Op Revenues	65,200	45,639	36,515	62,436	74,502	82,181	91,985
Growth (%)	23	-30	-20	71	0	0	0
Subsidiary Revenues	36,257	34,919	26,848	42,175	52,695	59,558	65,625
Growth (%)	19	-4	-23	57	25	13	10
Net Consolidated Revenues	1,01,457	80,558	63,363	1,04,611	1,27,197	1,41,739	1,57,610
Growth (%)	21	-21	-21	65	22	11	11
S/A EBITDA margins (%)	28.8	22.8	20.1	26.7	25.8	26.9	27.4
Consol EBITDA margins (%)	20.3	14.1	13.6	18.9	17.8	20.7	21.8
Consol EPS (INR)	22.2	8.8	1.9	21.7	21.8	34.4	42.4
Growth (%)	25.5	-60.3	-78.5	1,047.8	0.7	57.7	23.1

Financials and valuations

Consolidated - Income Statement							(INR m)
Y/E March	FY19	FY20	FY21	FY22	FY23E	FY24E	FY25E
Net Sales	1,01,457	80,558	63,363	1,04,611	1,27,197	1,41,739	1,57,610
Change (%)	21.4	-20.6	-21.3	65.1	21.6	11.4	11.2
EBITDA	20,556	11,389	8,634	19,810	22,607	29,299	34,343
Margin (%)	20.3	14.1	13.6	18.9	17.8	20.7	21.8
Depreciation	5,208	5,477	6,122	7,303	7,942	8,368	8,754
EBIT	15,348	5,912	2,512	12,507	14,664	20,931	25,589
Int. and Finance Charges	1,272	1,713	1,077	1,604	1,856	1,674	1,538
Other Income - Rec.	2,028	1,637	1,673	2,308	1,667	1,923	2,207
PBT bef. EO Exp.	16,104	5,835	3,107	13,211	14,476	21,179	26,258
EO Expense/(Income)	0	789	3,062	-924	0	0	0
PBT after EO Exp.	16,104	5,046	45	14,135	14,476	21,179	26,258
Tax Rate (%)	35.2	22.3	2245.8	21.5	30.1	24.5	25.0
Reported PAT	10,440	3,921	-970	11,101	10,122	15,991	19,703
PAT Adj for EO items	10,440	4,518	1,174	10,375	10,122	15,991	19,703
Change (%)	28.2	-56.7	-74.0	784.0	-2.4	58.0	23.2
Less: Minority Interest	118	423	294	281	-47	-47	-47
Adj PAT	10,322	4,095	880	10,098	10,169	16,038	19,750

Consolidated - Balance Sheet							(INR m)
Y/E March	FY19	FY20	FY21	FY22	FY23E	FY24E	FY25E
Equity Share Capital	931	931	931	931	931	931	931
Total Reserves	52,829	51,266	53,220	64,775	72,035	85,163	1,02,003
Net Worth	53,761	52,197	54,151	65,707	72,966	86,094	1,02,934
Minority Interest	298	320	317	561	561	561	561
Deferred Liabilities	2,062	507	1,445	1,718	1,718	1,718	1,718
Total Loans	37,728	38,784	45,798	56,545	54,545	52,545	50,545
Capital Employed	93,850	91,807	1,01,711	1,24,531	1,29,790	1,40,918	1,55,758
Gross Block	54,985	63,299	76,756	81,926	97,424	1,01,924	1,06,424
Less: Accum. Deprn.	18,739	23,279	29,256	33,226	41,168	49,536	58,290
Net Fixed Assets	36,246	40,020	47,500	48,700	56,255	52,388	48,134
Capital WIP	8,307	11,427	9,001	11,248	1,000	1,000	1,000
Total Investments	15,237	16,180	26,068	26,038	28,038	30,038	32,038
Curr. Assets, Loans&Adv.	55,993	47,197	48,309	68,933	79,034	95,978	1,17,381
Inventory	18,447	17,347	17,939	27,105	34,849	38,832	43,181
Account Receivables	21,478	14,938	14,096	21,623	26,136	29,124	32,386
Cash and Bank Balance	4,755	5,751	4,729	6,030	1,670	9,770	21,520
Loans and Advances	11,314	9,161	11,546	14,176	16,379	18,251	20,295
Curr. Liability & Prov.	21,933	23,017	29,167	30,387	34,537	38,485	42,794
Creditors	13,664	10,309	12,068	16,314	17,424	19,416	21,590
Other Current Liabilities	6,200	10,000	14,093	11,396	13,857	15,441	17,170
Provisions	2,069	2,707	3,006	2,677	3,255	3,627	4,034
Net Current Assets	34,060	24,181	19,142	38,546	44,497	57,493	74,587
Appl. of Funds	93,850	91,807	1,01,711	1,24,531	1,29,790	1,40,918	1,55,758

Financials and valuations

Ratios

Y/E March	FY19	FY20	FY21	FY22	FY23E	FY24E	FY25E
Basic (INR)							
EPS	22.2	8.8	1.9	21.7	21.8	34.4	42.4
Cash EPS	33.4	20.6	15.0	37.4	38.9	52.4	61.2
BV/Share	115.5	112.1	116.3	141.1	156.7	184.9	221.1
DPS	5.5	2.0	2.0	5.5	6.3	6.3	6.3
Payout (%)	24.5	28.5	-96.0	23.2	28.8	18.2	14.8
Valuation (x)							
P/E	39.1	98.4	458.1	39.9	39.6	25.1	20.4
Cash P/E	26.0	42.1	57.6	23.2	22.3	16.5	14.1
P/BV	7.5	7.7	7.4	6.1	5.5	4.7	3.9
EV/Sales	4.3	5.4	7.0	4.3	3.6	3.1	2.7
EV/EBITDA	21.2	38.3	51.4	22.9	20.2	15.2	12.6
Dividend Yield (%)	0.6	0.2	0.2	0.6	0.7	0.7	0.7
FCF per share	-4.7	12.0	2.3	-12.1	9.5	35.8	43.4
Return Ratios (%)							
RoE	20.6	7.7	1.7	16.9	14.7	20.2	20.9
RoCE (Post-tax)	13.2	6.4	3.2	10.5	9.1	13.0	14.3
RoIC	15.8	7.4	3.0	13.7	11.4	15.9	19.1
Working Capital Ratios							
Fixed Asset Turnover (x)	1.8	1.3	0.8	1.3	1.3	1.4	1.5
Inventory (Days)	66	79	103	95	100	100	100
Debtor (Days)	77	68	81	75	75	75	75
Creditor (Days)	49	47	70	57	50	50	50
Working Capital (Days)	105	84	83	113	123	123	123
Leverage Ratio (x)							
Debt/Equity	0.7	0.7	0.8	0.9	0.7	0.6	0.5

Consolidated - Cash Flow Statement

(INR m)

Y/E March	FY19	FY20	FY21	FY22	FY23E	FY24E	FY25E
Operating PBT	16,104	5,046	45	14,135	14,664	20,931	25,589
Depreciation	5,208	5,477	6,122	7,303	7,942	8,368	8,754
Other income	52	3,208	4,101	-1,510	1,714	1,970	2,254
Direct Taxes Paid	-5,502	-2,331	-934	-3,525	-4,353	-5,188	-6,554
(Inc)/Dec in WC	-6,747	4,607	3,837	-12,269	-10,311	-4,896	-5,344
CF from Operations	9,115	16,008	13,171	4,134	9,656	21,184	24,699
(inc)/dec in FA	-11,318	-9,618	-9,143	-10,683	-5,250	-4,500	-4,500
Free Cash Flow	-2,203	5,601	1,058	-5,625	4,406	16,684	20,199
(Pur)/Sale of Investments	-433	-1,705	-5,494	3,634	-2,000	-2,000	-2,000
CF from Investments	-11,751	-11,322	-14,636	-7,049	-7,250	-6,500	-6,500
Inc/(Dec) in Debt	7,313	1,082	6,591	6,517	-2,000	-2,000	-2,000
Interest Paid	-1,038	-1,380	-808	-1,444	-1,856	-1,674	-1,538
Dividend Paid	-2,806	-3,335	0	-1,642	-2,910	-2,910	-2,910
CF from Fin. Activity	3,468	-3,633	5,783	3,102	-6,766	-6,585	-6,448
Inc/Dec of Cash	832	263	1,347	1,111	-4,360	8,100	11,750
Add: Beginning Balance	2,030	2,862	3,126	4,473	5,584	1,223	9,323
Closing Balance	2,862	3,126	4,473	5,584	1,223	9,323	21,073

E: MOFSL Estimates

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BUY	>=15%
SELL	< - 10%
NEUTRAL	< - 10 % to 15%
UNDER REVIEW	Rating may undergo a change
NOT RATED	We have forward looking estimates for the stock but we refrain from assigning recommendation

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