

India

**ADD** (no change)

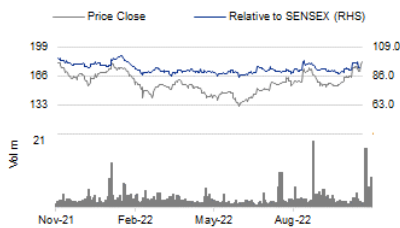
Consensus ratings\*: Buy 18 Hold 3 Sell 1

Current price:	Rs182
Target price:	Rs225 ▲
Previous target:	Rs215
Up/downside:	23.6%
InCred Research / Consensus:	7.8%
Reuters:	EXID.NS
Bloomberg:	EXID IN
Market cap:	US\$1,906m Rs154,573m
Average daily turnover:	US\$5.4m Rs441.1m
Current shares o/s:	850.0m
Free float:	54.0%

\*Source: Bloomberg

**Key changes in this note**

- Net sales raised by 3% for FY23F-25F.
- EPS raised by 3-5% for FY23F-25F.



Source: Bloomberg

Price performance	1M	3M	12M
Absolute (%)	17.9	14.2	0.4
Relative (%)	10.4	10.5	(2.1)

Major shareholders	% held
Raheja Family	46.0
LIC	4.9
ICICI Prudential Mutual Fund	2.5

**Analyst(s)**



**Pramod AMTHE**  
T (91) 22 4161 1541  
E pramod.amthe@incredcapital.com

**Hitesh THAKURANI**  
T (91) 22 4161 1554  
E hitesh.thakurani@incredcapital.com

# Exide Industries Ltd

## Sales momentum recovery raises hopes

- 2QFY23 EPS rose 9% qoq to Rs2.9, sharply above our/Bloomberg consensus estimates, aided by strong sales growth momentum and margin expansion.
- FY23F-25F EPS raised by 3-5% driven by sales upgrade.
- Stock trades below -1SD on P/E and P/BV basis, extending comfort. We retain ADD rating. New order wins in the li-ion segment can be a trigger to watch out.

### Sustained strong sales growth momentum is impressive

Exide Industries' or EIL's 2QFY23 EBITDA rose 7% qoq to Rs4.1bn, sharply above our estimate (14%) and Bloomberg consensus estimate (3%). Strong sales growth momentum (8% beat) and a qoq reduction in raw material cost led to EBITDA beat. The sharp qoq reduction of 260bp in raw material cost led to a 120bp qoq EBITDA margin expansion to 11.1%. Higher other income (+11% qoq) aided the big outperformance on the EPS front.

### Management conference-call highlights

EIL's management attributed the strong net sales growth momentum to double-digit volume growth, while price hikes have been slow to come by, as per our channel check. The sharp fall in lead prices in recent quarters helped qoq gross margin improvement. Management gave guidance of Rs4bn capex for the lead acid battery business in FY23F, while land purchase for the li-ion battery project subsidiary led the consolidated entity's capex of Rs6.1bn for 1HFY23. EIL plans to start production from its Bengaluru li-ion battery plant in the Dec 2024F quarter with a 6GW capacity and Rs40bn capex. EIL bought Laclanche's stake in Nextcharge li-ion battery assembly operations to make it a wholly-owned subsidiary earlier this month.

### EPS raised by 3-5% for FY23F-25F

Strong sales volume growth momentum shown by battery makers is impressive, leading to our 3% FY23F-25F sales upgrade for EIL. We expect the EBITDA margin to gradually rise to 12.3% by FY25F, aided by lower lead prices and improved product mix. With improved treasury income benefit, we raise EPS estimates by 3-5% for FY23F-25F.

### Low valuation and expectations provide comfort; retain ADD rating

Despite the stock price improvement since Jun 2022 lows, we feel the valuation is attractive at below -1SD on both P/E and P/BV basis. We feel the increased thrust given by management to reorganize investments and expand into the li-ion battery segment will start benefitting from FY25F, as it takes leadership to establish giga size li-ion battery cell production capacity. With growth expectations being low for the lead acid battery business, we see value at the current juncture. We maintain ADD rating on EIL, with the lead acid business valued at 12x one-year forward EPS and HDFC Life investment valued at 20% holding company discount to CMP, leading to our slightly higher SOTP-based target price of Rs225 (Rs215 earlier). Key downside risk is a sharp slowdown in the lead acid battery sales growth momentum.

### Financial Summary

	Mar-21A	Mar-22A	Mar-23F	Mar-24F	Mar-25F
Revenue (Rsm)	100,408	123,817	149,617	165,834	181,184
Operating EBITDA (Rsm)	13,556	13,956	16,264	19,423	22,254
Net Profit (Rsm)	7,583	7,158	9,605	11,718	13,524
Core EPS (Rs)	8.9	8.4	11.3	13.8	15.9
Core EPS Growth	(10.5%)	(5.6%)	34.2%	22.0%	15.4%
FD Core P/E (x)	20.38	21.59	16.09	13.19	11.43
DPS (Rs)	3.0	5.0	6.0	7.0	8.0
Dividend Yield	1.65%	2.75%	3.30%	3.85%	4.40%
EV/EBITDA (x)	9.08	6.63	5.65	4.48	3.64
P/FCFE (x)	138.38	39.03	37.29	26.12	20.15
Net Gearing	(1.3%)	(1.5%)	(0.7%)	(0.6%)	(1.3%)
P/BV (x)	2.24	1.46	1.40	1.33	1.26
ROE	11.5%	8.2%	8.9%	10.3%	11.3%
% Change In Core EPS Estimates			3.20%	4.61%	3.81%
InCred Research/Consensus EPS (x)					

SOURCE: INCRED RESEARCH, COMPANY REPORTS

## Sales momentum recovery raises hopes

### 2QFY23 earnings-call highlights

**Business scenario update:** Management indicated that demand was upbeat across most sectors. It highlighted that the automotive replacement market continues to grow, while the demand from original equipment makers or OEMs recovered as semiconductor chip supplies improved. In the industrial division, it mentioned that overall pick-up in business activity and increase in capex by public and private sectors led to good order inflow for the company. Management expects overall demand to remain healthy going ahead unless geopolitical tensions or any new supply problems impact the business. It mentioned that the company has gained market share from the organized as well as the unorganized players. It mentioned that the QoQ decline in revenue in 2QFY23 was because the home UPS battery business does more seasonal business in the Jun quarter than in the Sep quarter. Management stated that the company won't compromise on the capex for the core lead acid battery business and the same should be in the range of Rs4-5bn p.a. For now, it mentioned that the company has adequate capacity to take care of demand, although it stated that capacity utilization was at 85-90% and there could be possibility of brownfield and debottlenecking projects. The capex will also be utilized towards fine tuning existing products and introducing new products. Capex incurred in 1HFY23 stood at Rs1,560m.

**Margins could improve:** Margin improvement on a QoQ basis was due to softening of raw material (RM) prices. The company has also carried out cost optimization programs which have been effective, according to management. Management mentioned that fixed cost, as a proportion of sales, in 2QFY23 stood at 19.4% (-80bp yoy) and in 1HFY23 it stood at 18.7% (-180bp yoy). It indicated that digitalization initiatives are also bringing in efficiency in operations as supply chain cost has reduced. Management expects QoQ margin recovery to continue on the back of softened RM cost, although RM cost has increased of late. It indicated that once the prices stabilize, EIL would take three-to-six months for operations to normalize, including taking price hikes, after which the previous normalized margin of ~14% would not be beyond reach.

**EV battery cell manufacturing update:** Management highlighted that the project in Bengaluru for lithium-ion battery cell manufacturing has begun construction, with approvals being worked out and senior management team already hired. It is being conceptualized in two phases. Phase-1 would be for a capacity of 6GWh which should be ready by Sep 2024F, according to management. Phase-2 would add an additional capacity of 6GWh. Capex for Phase-1 would be Rs4bn and for Phase-2 it would be Rs2bn, for which management mentioned that it would be largely funded through internal accruals. It indicated that EIL is likely to be one of the first players to set up a multi-GWh lithium-ion battery cell facility in India and believes that this first-mover advantage is valuable considering the 1-1.5 years' timeframe to homologate the product with customers to get it validated. The company has started reaching out to potential customers and believes that its current business relations with OEMs could help it secure business in the future. It is targeting all segments of the automotive industry as well as stationary applications. Management mentioned that it missed out on the PLI (production-linked incentive) scheme as it did not bid aggressively enough and treaded cautiously based on the deeper knowledge it has compared to competitors about the building of lithium-ion battery cell plants. The company will start with NCM (nickel-manganese-cobalt) and lithium-ion phosphate batteries, which could be cylindrical or prismatic, and even the blade battery version over a period. It mentioned that margins for the cell-making business would not be very different from the lead acid battery business. The company would also be doing some module and battery packing operations at the Bengaluru plant site. Management stated that the agreement with SVOLT is a standard technology license agreement, with an upfront payment component followed by royalty payment. It

also mentioned that the company has been getting RFQ (Request For Quotation) in respect of the auxiliary battery business for electric vehicles or EVs.

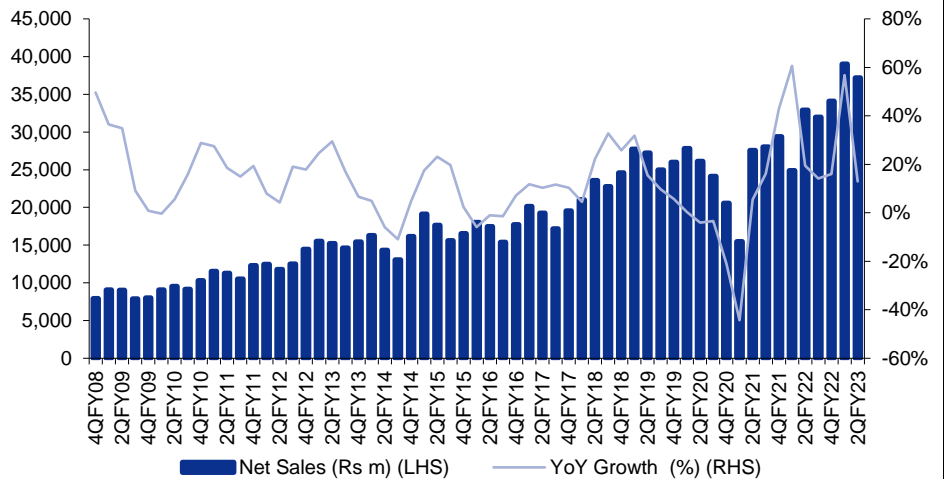
**Update on Nexcharge JV:** With regards to the buyout of Leclanche’s stake in the Nexcharge joint venture, management mentioned that the company has absorbed all the technology and the experience it got through this JV gives it a better understanding of the lithium-ion battery cell business as compared to competitors in India. Nexcharge’s production will take some time to stabilize, and it has launched products for buses, telecom and two-wheelers or 2Ws. Management indicated that the JV can be better leveraged only when the company starts making its own battery cells.

Figure 1: Results comparison

FYE Mar (Rs m)	2QFY23	2QFY22	yoy % chg	1QFY23	qoq % chg	1HFY23	1HFY22	yoy % chg	Comments for the quarter
Revenue	37,189	32,900	13.0	38,994	(4.6)	76,183	57,764	31.9	8% above our estimate.
Raw Materials	25,846	22,115	16.9	28,111	(8.1)	53,957	39,156	37.8	
RM as % of revenue	69.5	67.2	228.1	72.1	(259.2)	70.8	67.8	303.9	50bp above our estimate.
EBITDA	4,125	4,134	(0.2)	3,866	6.7	7,991	6,740	18.6	14% above our estimate on the back of lower operating costs.
<b>EBITDA margin (%)</b>	<b>11.1</b>	<b>12.6</b>	<b>(147.3)</b>	<b>9.9</b>	<b>117.5</b>	<b>10.5</b>	<b>11.7</b>	<b>(117.8)</b>	59bp above our estimate.
Depn & amort.	1,120	1,012	10.7	1,091	2.7	2,211	2,020	9.4	
EBIT	3,005	3,122	(3.8)	2,776	8.3	5,780	4,719	22.5	
Interest expense	62	86	(27.7)	64	(2.7)	126	195	(35.5)	
Other Income	356	109	225.7	322	10.5	678	261	159.9	78% above our estimate
Pretax profit	3,298	3,145	4.9	3,034	8.7	6,332	4,785	32.3	
Tax	836	802	4.3	771	8.5	1,607	1,187	35.3	
Tax rate (%)	25.3	25.5	(15)	25.4	(5.1)	25	25	56	
<b>Normalised Net profit</b>	<b>2,462</b>	<b>2,344</b>	<b>5.1</b>	<b>2,263</b>	<b>8.8</b>	<b>4,726</b>	<b>3,598</b>	<b>31.4</b>	22% above our estimate aided by higher other income.
Reported net profit	2,462	2,344	5.1	2,263	8.8	4,726	3,598	31.4	
Normalised EPS (Rs)	2.9	2.8	5.1	2.7	8.8	5.6	4.2	31.4	
Reported EPS (Rs)	2.9	2.8	5.1	2.7	8.8	5.6	4.2	31.4	

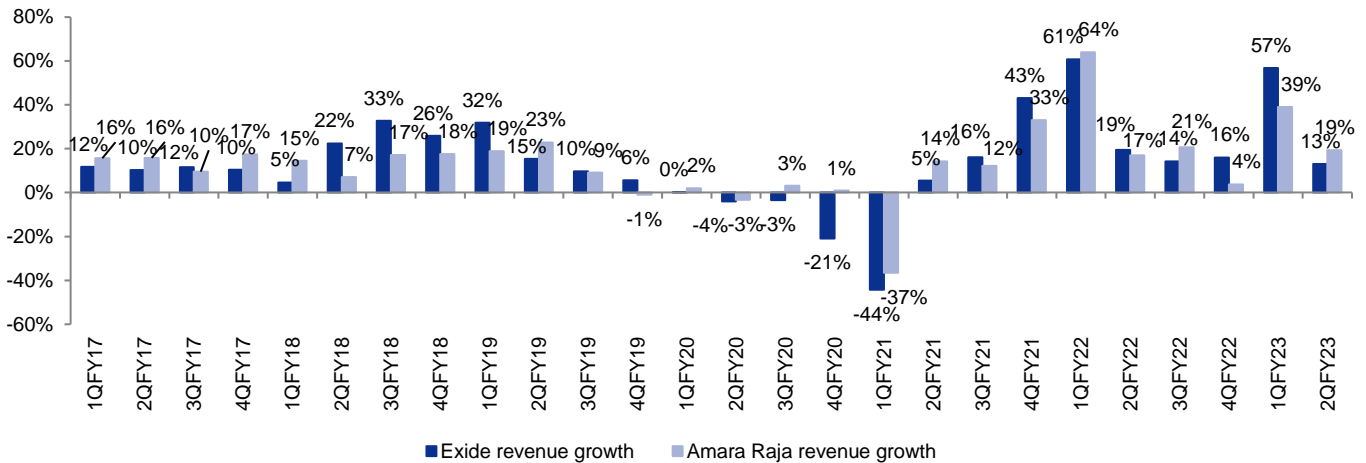
SOURCE: INCRED RESEARCH, COMPANY REPORTS

Figure 2: Double-digit sales growth is impressive



SOURCE: INCRED RESEARCH, COMPANY REPORTS

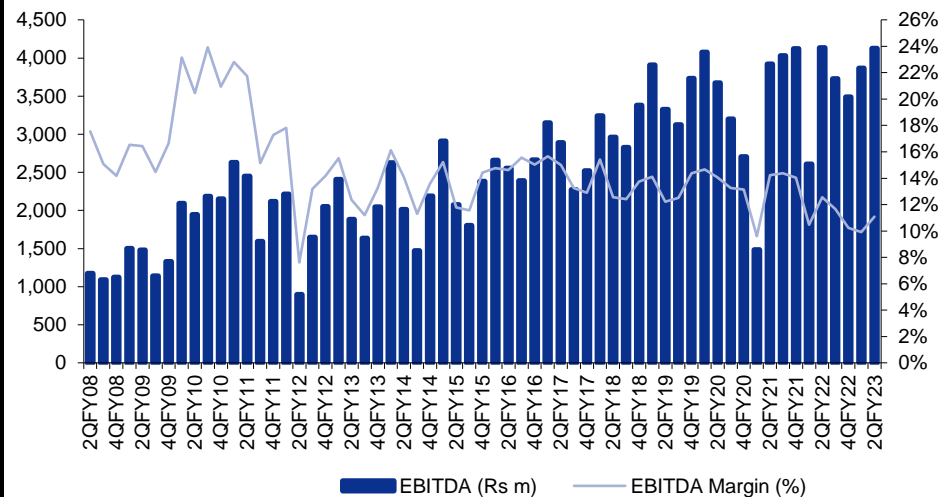
Figure 3: Exide Industries' recent quarter sales growth momentum is ahead of peers



SOURCE: INCRED RESEARCH, COMPANY REPORTS, AMARA RAJA

EBITDA margin has seen some improvement in 2QFY23, and management expects it to improve further as demand remains healthy and the benefits of softening raw material prices should provide a positive impact.

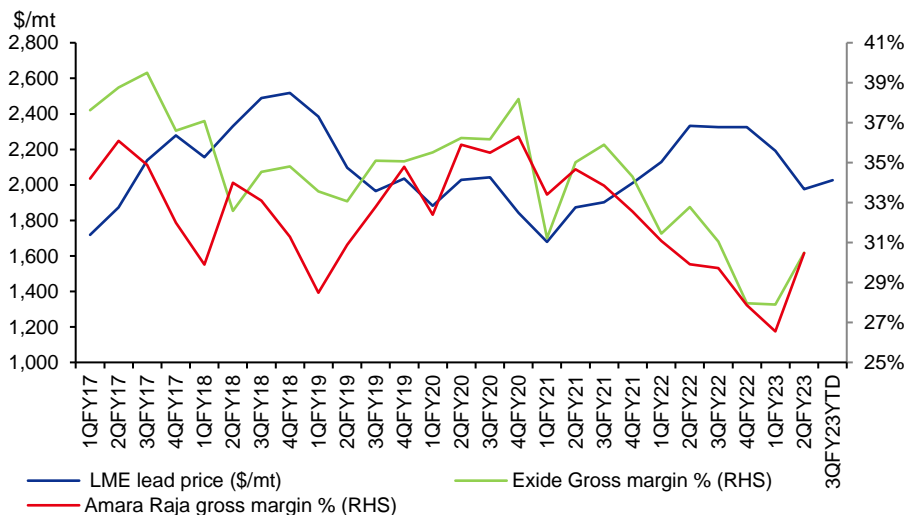
Figure 4: EBITDA margin seeing some improvement



SOURCE: INCRED RESEARCH, COMPANY REPORTS

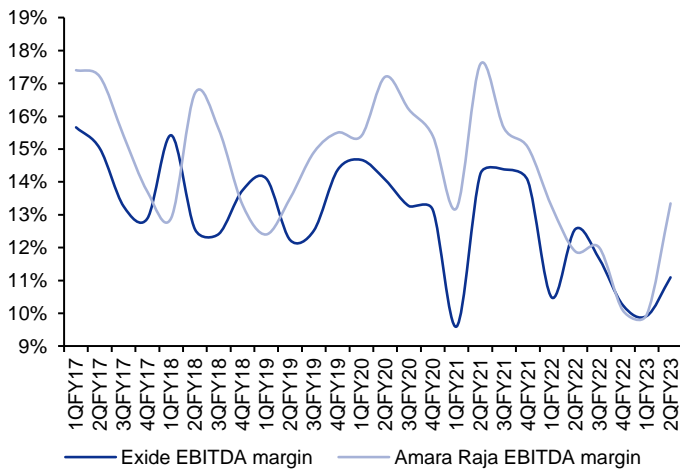
Softening lead prices improved gross margin of both the major lead acid battery makers, with a lag, in 2QFY23. However, lead prices have seen a slight uptick in 3QFY23YTD.

Figure 5: Lead prices cooling off improved gross margin



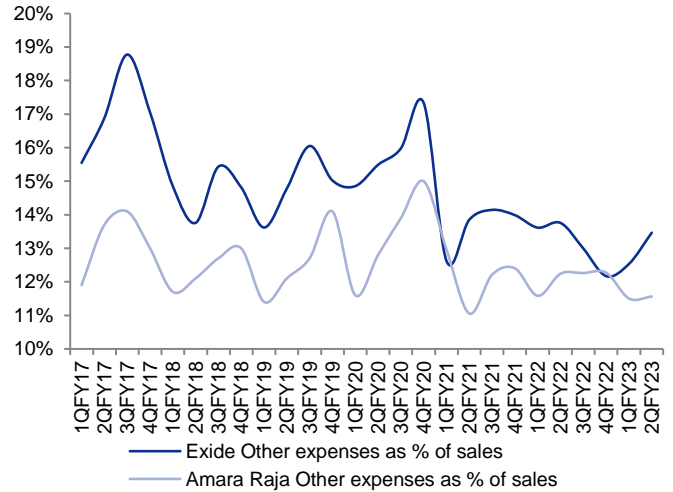
SOURCE: BLOOMBERG, AMARA RAJA, INCRED RESEARCH, COMPANY REPORTS

Figure 6: EBITDA margin improves from its lows



SOURCE: INCRED RESEARCH, COMPANY REPORTS, AMARA RAJA

Figure 7: Exide Industries' other expenses remain higher compared to competitors



SOURCE: INCRED RESEARCH, COMPANY REPORTS, AMARA RAJA

Figure 8: Revision in our earnings estimates

Rs m	FY23F		FY24F		FY25F	
	Old	New	Old	New	Old	New
Net Sales	1,45,253	1,49,617	1,61,010	1,65,834	1,75,931	1,81,184
Change (%)		3.0%		3.0%		3.0%
EBITDA	16,122	16,264	18,916	19,423	21,674	22,254
Change (%)		0.9%		2.7%		2.7%
EBITDA Margins	11.1%	10.9%	11.7%	11.7%	12.3%	12.3%
Change (bp)		-23		-4		-4
PAT	9,307	9,605	11,202	11,718	13,027	13,524
Change (%)		3.2%		4.6%		3.8%
EPS (Rs)	10.95	11.30	13.18	13.79	15.33	15.91
Change (%)		3.2%		4.6%		3.8%

SOURCE: INCRED RESEARCH ESTIMATES, COMPANY REPORTS

Figure 9: Key drivers (Rs m)

	FY20	FY21	FY22	FY23F	FY24F	FY25F
<b>Gross Revenues</b>						
4W OEM	8,394	8,801	11,224	14,159	16,527	18,452
% Growth	-23%	5%	28%	26%	17%	12%
4W Replacement	35,015	41,199	52,602	61,913	68,835	76,531
% Growth	2%	18%	28%	18%	11%	11%
2W OEM	7,599	7,725	8,167	9,862	11,411	12,741
% Growth	-22%	2%	6%	21%	16%	12%
2W Replacement	13,828	16,123	19,864	23,167	24,803	26,554
% Growth	5%	17%	23%	17%	7%	7%
<b>Total Auto</b>	<b>64,835</b>	<b>73,848</b>	<b>91,858</b>	<b>1,09,100</b>	<b>1,21,575</b>	<b>1,34,277</b>
% Growth	-5%	14%	24%	19%	11%	10%
<b>Industrial</b>	<b>33,677</b>	<b>26,436</b>	<b>31,826</b>	<b>40,356</b>	<b>44,088</b>	<b>46,737</b>
% Growth	-10%	-22%	20%	27%	9%	6%

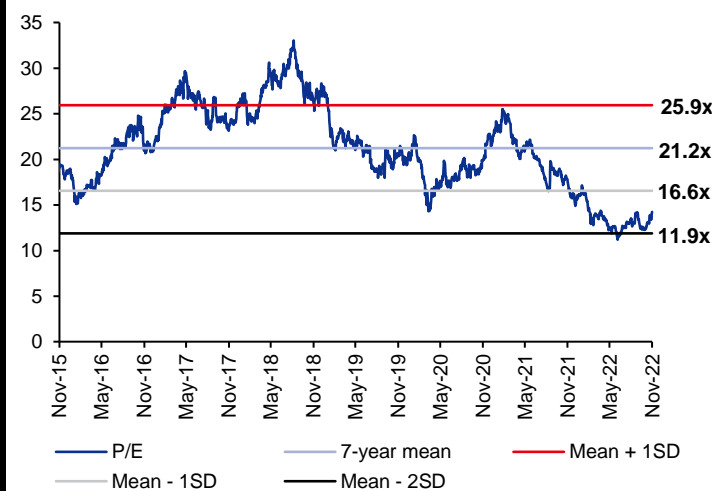
SOURCE: INCRED RESEARCH ESTIMATES, COMPANY REPORTS

Figure 10: Exide Industries - target price methodology

	Methodology	Amount in Rs m	Per share	Value per share (Rs)
Core battery business	12x 1 year forward P/E		15.12	181
Holding in HDFC Life	Value post 20% holding discount	36,758	43.2	43.2
<b>SOTP Value of Exide Industries</b>				<b>225</b>

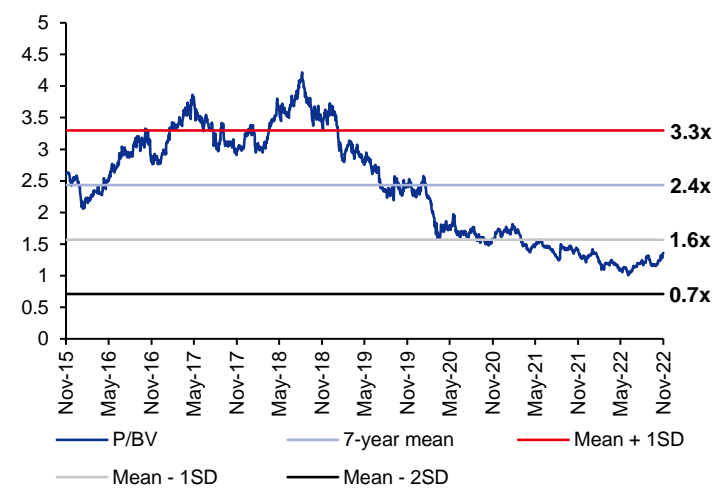
SOURCE: INCRED RESEARCH ESTIMATES, COMPANY REPORTS

Figure 11: Forward P/E valuation below -1SD



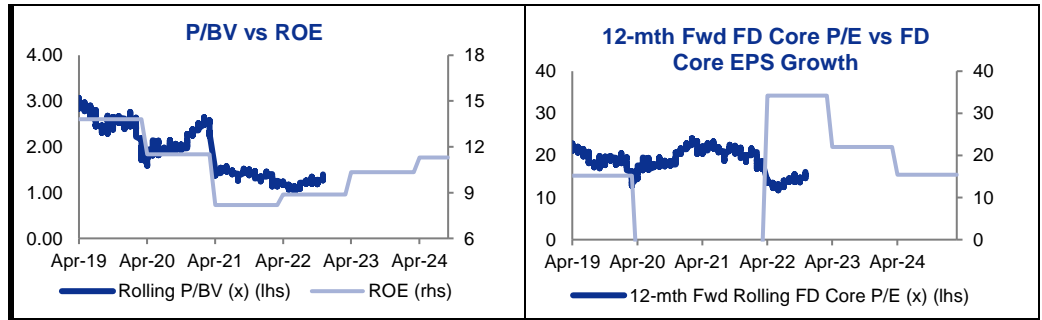
SOURCE: BLOOMBERG, INCRED RESEARCH ESTIMATES, COMPANY REPORTS

Figure 12: Forward P/BV valuation below -1SD



SOURCE: BLOOMBERG, INCRED RESEARCH ESTIMATES, COMPANY REPORTS

BY THE NUMBERS



Profit & Loss

(Rs m)	Mar-21A	Mar-22A	Mar-23F	Mar-24F	Mar-25F
<b>Total Net Revenue</b>	<b>100,408</b>	<b>123,817</b>	<b>149,617</b>	<b>165,834</b>	<b>181,184</b>
<b>Gross Profit</b>	<b>34,613</b>	<b>38,065</b>	<b>45,732</b>	<b>53,696</b>	<b>59,953</b>
<b>Operating EBITDA</b>	<b>13,556</b>	<b>13,956</b>	<b>16,264</b>	<b>19,423</b>	<b>22,254</b>
Depreciation And Amortisation	(3,794)	(4,126)	(4,796)	(5,254)	(5,734)
<b>Operating EBIT</b>	<b>9,762</b>	<b>9,830</b>	<b>11,469</b>	<b>14,169</b>	<b>16,519</b>
Financial Income/(Expense)	(238)	(384)	(200)	(300)	(400)
Pretax Income/(Loss) from Assoc.					
Non-Operating Income/(Expense)	654	803	1,205	1,350	1,444
<b>Profit Before Tax (pre-EI)</b>	<b>10,179</b>	<b>10,249</b>	<b>12,474</b>	<b>15,219</b>	<b>17,564</b>
Exceptional Items					
<b>Pre-tax Profit</b>	<b>10,179</b>	<b>10,249</b>	<b>12,474</b>	<b>15,219</b>	<b>17,564</b>
Taxation	(2,596)	(3,091)	(2,869)	(3,500)	(4,040)
Exceptional Income - post-tax					
<b>Profit After Tax</b>	<b>7,583</b>	<b>7,158</b>	<b>9,605</b>	<b>11,718</b>	<b>13,524</b>
Minority Interests					
Preferred Dividends					
FX Gain/(Loss) - post tax					
Other Adjustments - post-tax					
<b>Net Profit</b>	<b>7,583</b>	<b>7,158</b>	<b>9,605</b>	<b>11,718</b>	<b>13,524</b>
Recurring Net Profit	7,583	7,158	9,605	11,718	13,524
<b>Fully Diluted Recurring Net Profit</b>	<b>7,583</b>	<b>7,158</b>	<b>9,605</b>	<b>11,718</b>	<b>13,524</b>

Cash Flow

(Rs m)	Mar-21A	Mar-22A	Mar-23F	Mar-24F	Mar-25F
<b>EBITDA</b>	<b>13,556</b>	<b>13,956</b>	<b>16,264</b>	<b>19,423</b>	<b>22,254</b>
Cash Flow from Invt. & Assoc.					
Change In Working Capital	3,862	(4,480)	(5,080)	(1,846)	(1,531)
(Incr)/Decr in Total Provisions	1,956	1,189	450	388	517
Other Non-Cash (Income)/Expense	14	(979)			
<b>Other Operating Cashflow</b>		<b>39,678</b>			
Net Interest (Paid)/Received	417	419	1,005	1,050	1,044
Tax Paid	(2,858)	(3,466)	(2,744)	(3,348)	(3,864)
<b>Cashflow From Operations</b>	<b>16,947</b>	<b>46,316</b>	<b>9,895</b>	<b>15,667</b>	<b>18,421</b>
Capex	(5,812)	(6,543)	(4,000)	(4,500)	(5,500)
Disposals Of FAs/subsidiaries					
Acq. Of Subsidiaries/investments	(10,017)	(35,813)	(1,750)	(5,250)	(5,250)
Other Investing Cashflow					
<b>Cash Flow From Investing</b>	<b>(15,830)</b>	<b>(42,355)</b>	<b>(5,750)</b>	<b>(9,750)</b>	<b>(10,750)</b>
Debt Raised/(repaid)					
Proceeds From Issue Of Shares					
Shares Repurchased					
Dividends Paid	(2,550)	(4,250)	(5,100)	(5,950)	(6,800)
Preferred Dividends					
Other Financing Cashflow					
<b>Cash Flow From Financing</b>	<b>(2,550)</b>	<b>(4,250)</b>	<b>(5,100)</b>	<b>(5,950)</b>	<b>(6,800)</b>
Total Cash Generated	(1,433)	(289)	(955)	(33)	871
<b>Free Cashflow To Equity</b>	<b>1,117</b>	<b>3,961</b>	<b>4,145</b>	<b>5,917</b>	<b>7,671</b>
<b>Free Cashflow To Firm</b>	<b>1,355</b>	<b>4,345</b>	<b>4,345</b>	<b>6,217</b>	<b>8,071</b>

SOURCE: INCRED RESEARCH, COMPANY REPORTS



**BY THE NUMBERS...cont'd**

<b>Balance Sheet</b>					
<b>(Rs m)</b>	<b>Mar-21A</b>	<b>Mar-22A</b>	<b>Mar-23F</b>	<b>Mar-24F</b>	<b>Mar-25F</b>
Total Cash And Equivalents	914	1,612	769	686	1,606
Total Debtors	10,153	13,115	15,647	16,948	17,485
Inventories	23,462	24,585	29,513	30,895	32,762
Total Other Current Assets	2,449	1,962	2,100	2,400	2,600
<b>Total Current Assets</b>	<b>36,978</b>	<b>41,273</b>	<b>48,029</b>	<b>50,928</b>	<b>54,453</b>
Fixed Assets	28,724	31,140	30,344	29,590	29,356
Total Investments	30,586	60,434	61,934	66,934	71,934
Intangible Assets					
Total Other Non-Current Assets					
<b>Total Non-current Assets</b>	<b>59,310</b>	<b>91,574</b>	<b>92,279</b>	<b>96,524</b>	<b>101,290</b>
Short-term Debt					
Current Portion of Long-Term Debt					
Total Creditors	16,483	16,175	18,446	19,082	19,856
Other Current Liabilities	6,856	8,009	8,410	8,830	9,272
<b>Total Current Liabilities</b>	<b>23,338</b>	<b>24,185</b>	<b>26,856</b>	<b>27,913</b>	<b>29,128</b>
Total Long-term Debt					
Hybrid Debt - Debt Component					
Total Other Non-Current Liabilities					
<b>Total Non-current Liabilities</b>					
Total Provisions	4,015	2,607	2,891	3,211	3,563
<b>Total Liabilities</b>	<b>27,353</b>	<b>26,792</b>	<b>29,747</b>	<b>31,124</b>	<b>32,690</b>
Shareholders' Equity	68,935	106,056	110,561	116,329	123,053
Minority Interests					
<b>Total Equity</b>	<b>68,935</b>	<b>106,056</b>	<b>110,561</b>	<b>116,329</b>	<b>123,053</b>

<b>Key Ratios</b>					
	<b>Mar-21A</b>	<b>Mar-22A</b>	<b>Mar-23F</b>	<b>Mar-24F</b>	<b>Mar-25F</b>
Revenue Growth	1.9%	23.3%	20.8%	10.8%	9.3%
Operating EBITDA Growth	(0.7%)	3.0%	16.5%	19.4%	14.6%
Operating EBITDA Margin	13.5%	11.3%	10.9%	11.7%	12.3%
Net Cash Per Share (Rs)	1.07	1.90	0.90	0.81	1.89
BVPS (Rs)	81.10	124.77	130.07	136.86	144.77
Gross Interest Cover	41.07	25.58	57.34	47.23	41.30
Effective Tax Rate	25.5%	30.2%	23.0%	23.0%	23.0%
Net Dividend Payout Ratio	33.6%	59.4%	53.1%	50.8%	50.3%
Accounts Receivables Days	30.95	30.66	32.05	32.79	31.56
Inventory Days	125.89	102.25	95.04	98.31	95.83
Accounts Payables Days	74.46	69.50	60.82	61.08	58.62
ROIC (%)	21.5%	23.7%	24.6%	27.9%	31.8%
ROCE (%)	13.9%	10.8%	10.3%	12.2%	13.4%
Return On Average Assets	8.8%	6.6%	7.2%	8.4%	9.2%

<b>Key Drivers</b>					
	<b>Mar-21A</b>	<b>Mar-22A</b>	<b>Mar-23F</b>	<b>Mar-24F</b>	<b>Mar-25F</b>
Unit sales grth (% , main prod./serv.)	4.9%	8.1%	11.8%	9.8%	8.4%
Unit sales grth (% ,2ndary prod/serv)	(21.5%)	20.4%	26.8%	9.2%	6.0%

SOURCE: INCRED RESEARCH, COMPANY REPORTS



---

## DISCLAIMER

---

This report (including the views and opinions expressed therein, and the information comprised therein) has been prepared by Incred Research Services Private Ltd. (formerly known as Earnest Innovation Partners Private Limited) (hereinafter referred to as "IRSPL"). IRSPL is registered with SEBI as a Research Analyst vide Registration No. INH000007793. Pursuant to a trademark agreement, IRSPL has adopted "Incred Equities" as its trademark for use in this report.

The term "IRSPL" shall, unless the context otherwise requires, mean IRSPL and its affiliates, subsidiaries and related companies. This report is not directed or intended for distribution to or use by any person or entity resident in a state, country or any jurisdiction, where such distribution, publication, availability or use would be contrary to law, regulation or which would subject IRSPL and its affiliates/group companies to registration or licensing requirements within such jurisdictions.

This report is being supplied to you strictly on the basis that it will remain confidential. No part of this report may be (i) copied, photocopied, duplicated, stored or reproduced in any form by any means; or (ii) redistributed or passed on, directly or indirectly, to any other person in whole or in part, for any purpose without the prior written consent of IRSPL.

The information contained in this report is prepared from data believed to be correct and reliable at the time of issue of this report.

IRSPL is not required to issue regular reports on the subject matter of this report at any frequency and it may cease to do so or change the periodicity of reports at any time. IRSPL is not under any obligation to update this report in the event of a material change to the information contained in this report. IRSPL has not any and will not accept any, obligation to (i) check or ensure that the contents of this report remain current, reliable or relevant; (ii) ensure that the content of this report constitutes all the information a prospective investor may require; (iii) ensure the adequacy, accuracy, completeness, reliability or fairness of any views, opinions and information, and accordingly, IRSPL and its affiliates/group companies (and their respective directors, associates, connected persons and/or employees) shall not be liable in any manner whatsoever for any consequences (including but not limited to any direct, indirect or consequential losses, loss of profits and damages) of any reliance thereon or usage thereof.

Unless otherwise specified, this report is based upon reasonable sources. Such sources will, unless otherwise specified, for market data, be market data and prices available from the main stock exchange or market where the relevant security is listed, or, where appropriate, any other market. Information on the accounts and business of company(ies) will generally be based on published statements of the company(ies), information disseminated by regulatory information services, other publicly available information and information resulting from our research. Whilst every effort is made to ensure that statements of facts made in this report are accurate, all estimates, projections, forecasts, expressions of opinion and other subjective judgments contained in this report are based on assumptions considered to be reasonable as of the date of the document in which they are contained and must not be construed as a representation that the matters referred to therein will occur. Past performance is not a reliable indicator of future performance. The value of investments may go down as well as up and those investing may, depending on the investments in question, lose more than the initial investment. No report shall constitute an offer or an invitation by or on behalf of IRSPL and its affiliates/group companies to any person to buy or sell any investments.

The opinions expressed are based on information which are believed to be accurate and complete and obtained through reliable public or other non-confidential sources at the time made. (Information barriers and other arrangements may be established where necessary to prevent conflicts of interests arising. However, the analyst(s) may receive compensation that is based on his/their coverage of company(ies) in the performance of his/their duties or the performance of his/their recommendations. In reviewing this report, an investor should be aware that any or all of the foregoing, among other things, may give rise to real or potential conflicts of interest. Additional information is, subject to the duties of confidentiality, available on request. The report is not a "prospectus" as defined under Indian Law, including the Companies Act, 2013, and is not, and shall not be, approved by, or filed or registered with, any Indian regulator, including any Registrar of Companies in India, SEBI, any Indian stock exchange, or the Reserve Bank of India. No offer, or invitation to offer, or solicitation of subscription with respect to any such securities listed or proposed to be listed in India is being made, or intended to be made, to the public, or to any member or section of the public in India, through or pursuant to this report.

The research analysts, strategists or economists principally responsible for the preparation of this research report are segregated from the other activities of IRSPL. Information barriers and other arrangements have been established, as required, to prevent any conflicts of interests.

The research analysts, strategists or economists principally responsible for the preparation of this research report are segregated from the other activities of IRSPL. Information barriers and other arrangements have been established, as required, to prevent any conflicts of interests.

IRSPL may have issued other reports (based on technical analysis, event specific, short term views etc.) that are inconsistent with and reach different conclusion from the information presented in this report.

Holding of Analysts/Relatives of Analysts, IRSPL and Associates of IRSPL in the covered securities, as on the date of publishing of this report

	Analyst/ Relative	Entity/ Associates
any financial interests in the company covered in this report (subject company) and nature of such financial interest	NO	NO
actual/beneficial ownership of 1% or more in securities of the subject company at the end of the month immediately preceding the date of publication of the research report or date of the public appearance;	NO	NO
any other material conflict of interest at the time of publication of the research report or at the time of public appearance	NO	NO
received any compensation from the subject company in the past twelve months for investment banking or merchant banking or brokerage services or investment advisory or depository or distribution from the subject company in the last twelve months for products/services other than investment banking or merchant banking or broker- age services or investment advisory or depository or distribution from the subject company in the last twelve months	NO	NO
managed or co-managed public offering of securities for the subject company in the last twelve months	NO	NO
received any compensation or other benefits from the subject company or third party in connection with the research report	NO	NO
served as an officer, director or employee of the subject company	NO	NO
been engaged in market making activity for the subject company	NO	NO

#### Analyst declaration

- The analyst responsible for the production of this report hereby certifies that the views expressed herein accurately and exclusively reflect his or her personal views and opinions about any and all of the issuers or securities analysed in this report and were prepared independently and autonomously in an unbiased manner.
- No part of the compensation of the analyst(s) was, is, or will be directly or indirectly related to the inclusion of specific recommendations(s) or view(s) in this report or based any specific investment banking transaction.
- The analyst(s) has(have) not had any serious disciplinary action taken against him/her(them).
- The analyst, strategist, or economist does not have any material conflict of interest at the time of publication of this report.
- The analyst(s) has(have) received compensation based upon various factors, including quality, accuracy and value of research, overall firm performance, client feedback and competitive factors.

IRSPL and/or its affiliates and/or its Directors/employees may own or have positions in securities of the company(ies) covered in this report or any securities related thereto and may from time to time add to or dispose of, or may be materially interested in, any such securities.

IRSPL and/or its affiliates and/or its Directors/employees may do and seek to do business with the company(ies) covered in this research report and may from time to time (a) buy/sell the securities covered in this report, from time to time and/or (b) act as market maker or have assumed an underwriting commitment in securities of such company(ies), and/or (c) may sell them to or buy them from customers on a principal basis and/or (d) may also perform or seek to perform significant investment banking, advisory, underwriting or placement services for or relating to such company(ies) and/or (e) solicit such investment, advisory or other services from any entity mentioned in this report and/or (f) act as a lender/borrower to such company and may earn brokerage or other compensation. However, Analysts are forbidden to acquire, on their own account or hold securities (physical or uncertificated, including derivatives) of companies in respect of which they are compiling and producing financial recommendations or in the result of which they play a key part.