

Mahindra CIE

Estimate change	↔
TP change	↑
Rating change	↔

Bloomberg	MACA IN
Equity Shares (m)	379
M.Cap.(INRb)/(USD\$)	95.1 / 1.3
52-Week Range (INR)	281 / 128
1, 6, 12 Rel. Per (%)	3/30/33
12M Avg Val (INR M)	102

Financials & Valuations (INR b)

INR b	CY20	CY21E	CY22E
Sales	60.5	85.3	95.8
EBITDA (%)	8.3	13.1	13.9
Adj. PAT	1.1	5.6	6.8
EPS (INR)	2.8	14.8	18.1
EPS Growth (%)	-70.1	424.9	22.1
BV/Share (INR)	130	139	153

Ratio

RoE (%)	2.2	11.0	12.4
RoCE (%)	2.1	7.9	9.7
Payout (%)	0.0	16.7	17.0

Valuations

P/E (x)	88.9	16.9	13.9
P/BV (x)	1.9	1.8	1.6
Div. Yield (%)	0.0	0.0	0.0
FCF Yield (%)	2.2	0.9	6.0

Shareholding pattern (%)

As On	Sep-21	Jun-21	Sep-20
Promoter	72.2	72.2	71.6
DII	7.8	5.6	3.4
FII	10.5	12.7	14.5
Others	9.5	9.5	10.6

FII Includes depository receipts

CMP: INR251 **TP: INR300 (+20%)** **Buy**

Revenue beat in India operations; EU impacted by chip shortage

The focus is on winning new orders in the EV space

- MACA's strong performance in 3QCY21 was driven by strong revenue trajectory in its India operations, while its EU operations were affected by chip shortages and an adverse exchange rate. New order for EVs provides support against an expected loss of revenue growth in its ICE-dependent portfolio.
- We largely maintain our EPS estimates, despite good beat in 3QCY21, as we factor in the impact from semiconductor shortages. We maintain our **Buy** rating.

Strong all round performance led by beat in Indian operations

- Consolidated revenue grew 23% YoY (2% QoQ) to INR20.9b (est. INR19.5b) in 3QCY21, led by a beat in India operations.
- EBITDA margin expanded by 400bp YoY to 12.8% (est. 12.7%). EBITDA grew by 78% YoY (3% QoQ) to INR2.7b (est. INR2.5b). Adjusted PAT grew 174% YoY (22% QoQ) to ~INR1.66b (est. ~INR1.14b) due to lower tax outflow, partially offset by lower other income.
- Revenue from the India business grew 33% YoY (22% QoQ) to INR11.4b (est. ~INR10.3b). EBITDA margin improved by 100bp YoY (140bp QoQ) to 13.6% (est. 13.4%).
- EU business revenue grew 13% YoY (-14% QoQ) to INR9.5b (est. ~INR9.2b). EBITDA margin improved 670bp YoY (-130bp QoQ) to 11.9% (est. 12%). Sales dropped sequentially due to seasonality in summer holidays and semiconductor shortages.

Highlights from the management commentary

- **Growth forecast:** It is expecting lower than expected sales in 4QCY21 (v/s earlier estimates) due to ongoing semiconductor shortage. However, it is optimistic about growth in both India and the European region during CY22 and CY23, subject to semiconductor availability.
- **EV business:** Metalcastello has secured an annual order for EVs worth EUR20m from an American customer. The same is expected to start by the end of CY22 and will peak in CY25. Bill Forge has also secured EV orders of a similar quantum for driveline products.
- Exports momentum is being impacted by high logistics cost and is expected to grow at a slower pace.
- The management expects CY21 capex to be ~INR4b. Going forward, it is expected to be ~5% of the revenue, with 100% of growth capex located in India.

Valuation and view

- MACA's growth story is on track, driven by its organic initiatives (new products/customers). This, coupled with cost-cutting initiatives in both India and the EU, would drive margin expansion.
- Any significant order win or growth in the EV portfolio can act as a re-rating factor. The stock trades at valuations of 16.9x/13.9x CY21E/CY22E consolidated EPS. We maintain our **Buy** rating with a TP of ~INR300/share (15x Sep'23E consolidated EPS).

Jinesh Gandhi – Research Analyst (Jinesh@MotilalOswal.com)

Research Analyst: Vipul Agrawal (Vipul.Agrawal@MotilalOswal.com) / Aniket Desai (Aniket.Desai@motilalosal.com)

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

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

Consolidated quarterly performance

	(INR m)										
(INR m)	CY20				CY21				CY20	CY21E	CY21E
Y/E December	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4QE			3QE
Net Sales	16,627	7,355	16,943	19,576	21,894	20,425	20,907	22,095	60,501	85,321	19,491
YoY Change (%)	-23.5	-65.7	-9.3	13.6	31.7	177.7	23.4	12.9	-23.5	41.0	15.0
EBITDA	1,822	-963	1,508	2,475	2,868	2,598	2,685	3,047	5,016	11,198	2,483
Margin (%)	11.0	-13.1	8.9	12.6	13.1	12.7	12.8	13.8	8.3	13.1	12.7
Depreciation	815	518	849	882	883	886	835	1,040	3,064	3,643	930
Interest	182	167	142	57	142	131	133	115	548	521	130
Other Income	49	179	420	74	194	116	74	250	549	633	140
PBT before EO expense	873	-1,468	937	1,611	2,037	1,697	1,791	2,142	1,953	7,667	1,563
EO Exp./(Inc.)	-1	2	0	0	1,425	0	-293	0	0	1,132	0
PBT after EO exp.	874	-1,470	937	1,611	612	1,697	2,084	2,142	1,952	6,535	1,563
Tax Rate (%)	28.3	12.5	35.2	30.6	83.6	19.7	20.1	37.5	45.4	31.7	27.0
Adj. PAT	626	-1,286	607	1,119	1,526	1,362	1,464	1,338	1,067	5,690	1,141
YoY Change (%)	-59.1	-201.9	4.2	500.2	143.5	-205.9	141.1	19.6	-70.1	433.5	87.8
Margin (%)	3.8	-17.5	3.6	5.7	7.0	6.7	7.0	6.1	1.8	6.7	5.9
Revenue											
India	7,819	2,650	8,560	10,272	11,144	9,344	11,395	11,979	29,301	43,862	10,272
Growth (%)	-8	-73	-6	18	43	253	33	16.6	-18.5	49.7	20.0
EU	8,807	4,704	8,381	9,304	10,750	11,081	9,511	10,103	31,200	41,445	9,219
Growth (%)	-34	-60	-12	9	22	136	13	8.6	-27.7	32.8	10.0
EBITDA Margin											
India	12.4	-17.9	12.6	14.1	13.7	12.2	13.6	14.3	10.2	13.5	13.4
EU	10.1	-10.4	5.2	11.1	12.5	13.2	11.9	13.0	6.5	12.7	12.0

E: MOFSL estimates; AEL merged with effect from 2QCY19



Key takeaways from the management interaction

Growth outlook

- It is expecting lower than expected sales in 4QCY21 (v/s earlier estimates) due to ongoing semiconductor shortage as the LMV market is expected to grow by only 8%/1% in India/Europe.
- However, it is optimistic about growth in both India and the European region during CY22 and CY23, subject to semiconductor availability.

India business

- Bill Forge has secured EV orders (worth ~EUR20m, similar to Metalcastello) for driveline products. Margin in EVs would be similar to ICE products. However, complexity and accuracy would be higher than those of ICE products.
- All divisions grew during 3QCY21, despite the semiconductor shortage. However, there is uncertainty in 4QCY21 due to the chip shortage.
- Exports momentum is being impacted by high logistics cost and is expected to grow at a slower pace.

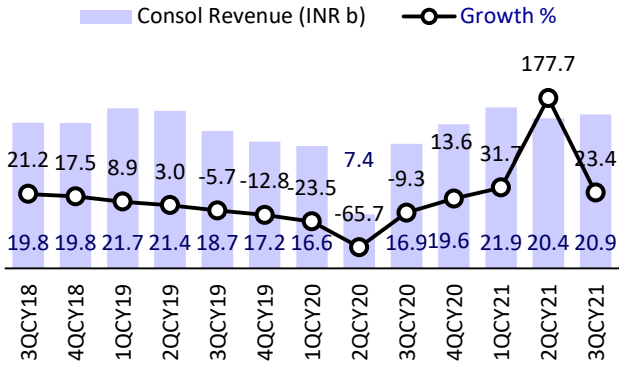
European business

- The European business has delivered good performance, despite COVID-19 and the semiconductor shortage, resulting in 11% growth in revenue in EUR terms.
- Good margin performance was a result of restructuring actions taken in CY20.
- Semiconductor shortages are expected to impact 4QCY21 performance and are expected to normalize by CY22.
- Metalcastello has secured an annual order for EVs worth EUR20m from an American customer. The same is expected to start by the end of CY22 and will peak in CY25. Demand remains good. It is adding additional capacities and machineries, and should be back to CY19 levels soon.

Others

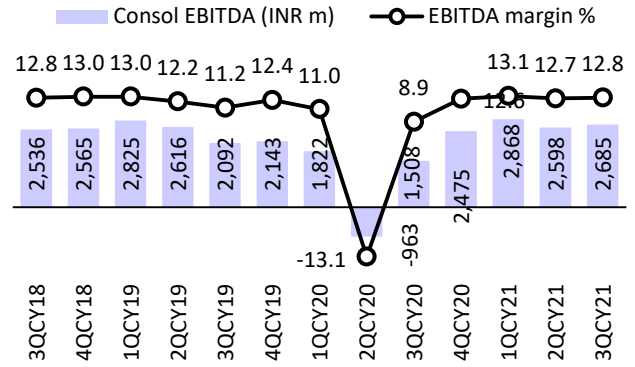
■ The management expects CY21 capex to be ~INR4b. Going forward, it is expected to be ~5% of the revenue, with 100% of growth capex located in India.

Exhibit 1: Trend in consolidated revenue



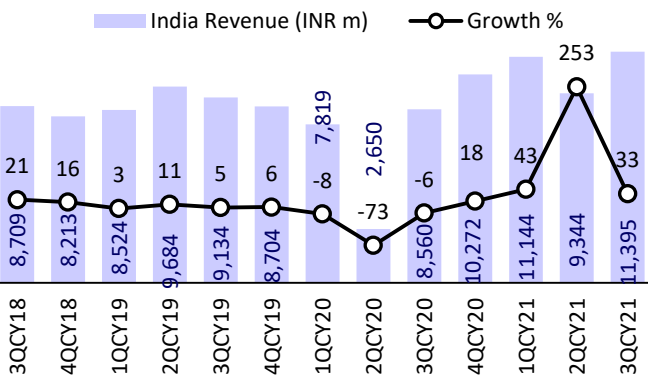
Source: Company, MOFSL

Exhibit 2: Trend in consolidated EBITDA



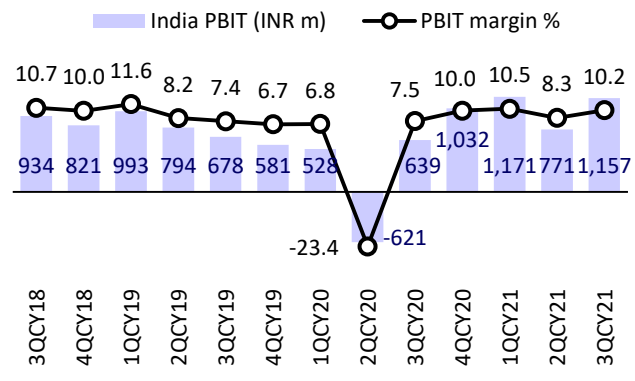
Source: Company, MOFSL

Exhibit 3: Trend in India revenue



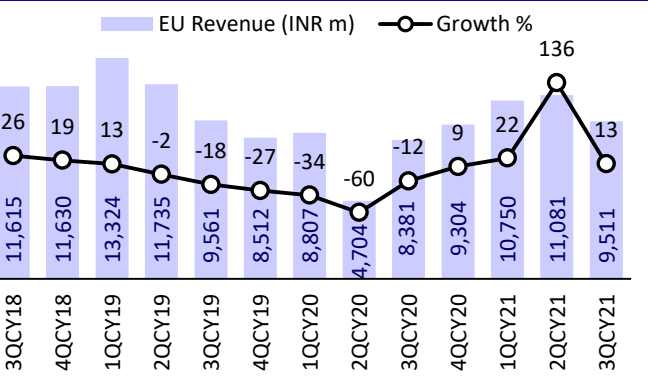
Source: Company, MOFSL

Exhibit 4: Trend in India PBIT margin



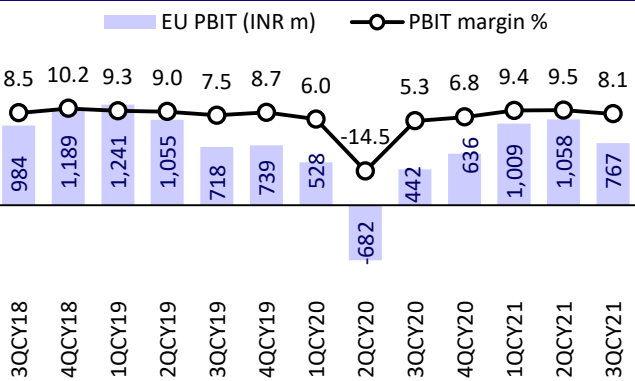
Source: Company, MOFSL

Exhibit 5: Trend in EU revenue



Source: Company, MOFSL

Exhibit 6: Trend in EU PBIT margin



Source: Company, MOFSL

Valuation and view

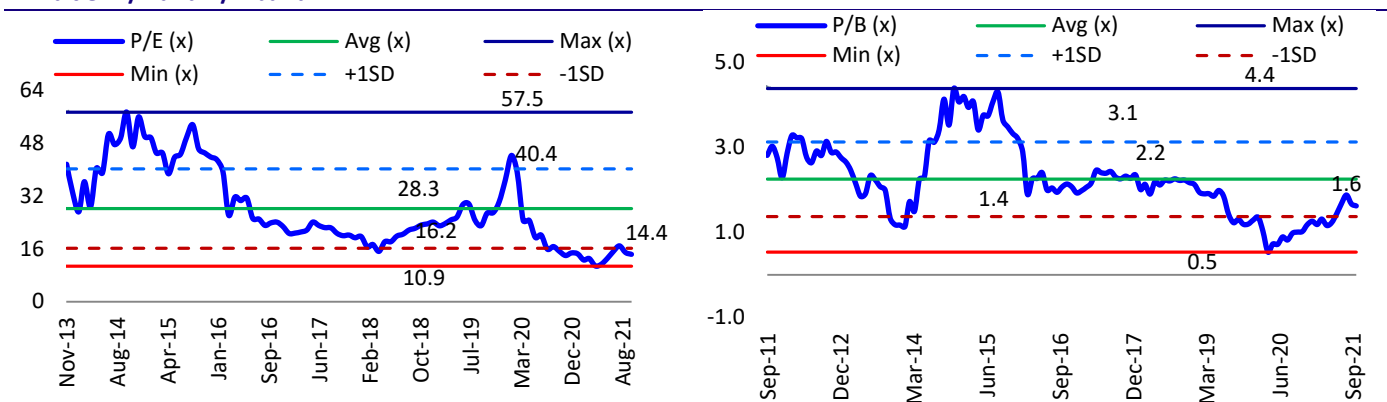
- **India a growth driver; focus is on consolidating operations in the EU:** MACA has been focused on diversifying revenue in India and cutting costs in the India and EU businesses. India is expected to be the key growth driver for MACA, driven by: a) value-added products (machined castings, higher grade magnets, complex gears, etc.), b) exports, and c) new products/customers. We expect margin expansion to be led by: a) improvement in the mix, b) optimization of the product process location, and c) operating leverage. While it has already achieved a 15% EBITDA margin target in India, it would now aim for 18-20% levels, at which the parent operates. Considering the lack of growth in the EU business, the focus is on: a) rationalizing the Germany business portfolio to improve margin, b) matching costs with revenue in a cyclical market to retain margin in the Italy business, and c) maintaining margin in Spain and Lithuania.
- **Strong, focused, and disciplined parent:** CIE is a focused global player in Auto Components, with diversified technologies and multi-location offerings. It has demonstrated its ability to achieve acquisitive profitable growth across geographies, while delivering value-accretive growth, by adhering to strict financial discipline. MACA benefits from CIE's expertise in driving operational improvements and is working toward achieving the latter's financial objectives.
- **Set for growth after the consolidation phase:** In the last 3-4 years since acquiring MACA, CIE embarked on restructuring and consolidating all operations under MACA. With Phase I of the consolidation largely complete, MACA is now focused on growth in Phase II. In the India business, it is targeting both organic and inorganic growth. In the Europe business, it would invest selectively for growth purposes. MACA is CIE's vehicle for expansion in Southeast Asia and forging technology worldwide.
- **Financial discipline key to M&A-led strategy:** M&A has been an integral tool for MACA in achieving its strategic objectives and growth. For MACA, M&A would be the key driver: a) to fill the gaps in the area of strategic technologies – aluminum and plastics, b) for access to key players in the India PV segment (Maruti, Hyundai, etc.), and c) for entry into the ASEAN markets. CIE has displayed strict acquisition discipline, with a criteria of less than 3x EV/EBITDA over three years, and targets a minimum RoI of ~20%.
- **Maintain Buy with a TP of INR300/share:** We largely maintain our EPS estimate as any impact above our estimate would be offset by the semiconductor shortage. MACA's growth story is on track, driven by its organic initiatives (new products/customers) and M&A focus. Under CIE's parentage, MACA has been able to improve its efficiencies, cut costs, and improve profitability. The stock trades at valuations of 16.9x/13.9x CY21E/CY22E consolidated EPS. We maintain our Buy rating with a TP of ~INR300/share (15x Sep'23E consolidated EPS).

Exhibit 7: Revised estimates

(INR m)	CY21E			CY22E		
	Revised	Old	Change (%)	Revised	Old	Change (%)
Net sales	85,321	85,487	(0.2)	95,790	95,242	0.6
EBITDA	11,198	11,132	0.6	13,339	13,172	1.3
EBITDA margin (%)	13.1	13.0	10bp	13.9	13.8	10bp
Adjusted PAT	5,690	5,523	3.0	6,832	6,686	2.2
EPS (INR)	15.0	14.6	3.0	18.1	17.7	2.2

Source: MOFSL

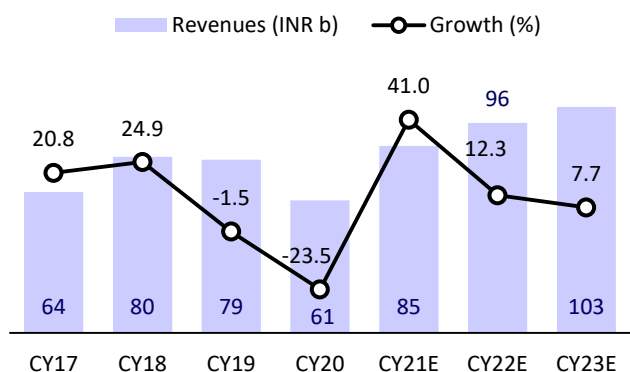
Exhibit 8: P/E and P/B band



Source: MOFSL

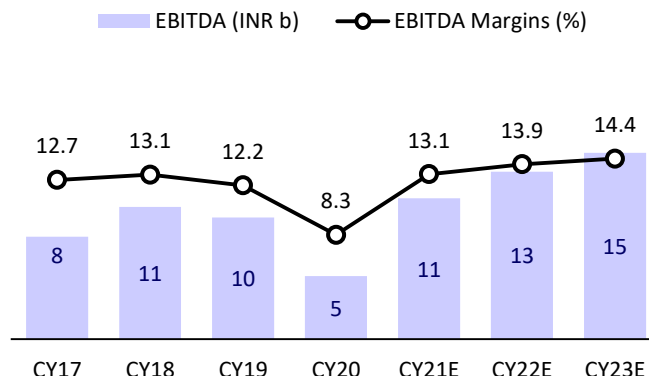
MACA | Key operating indicators

Exhibit 9: Expect consolidated revenue to recover



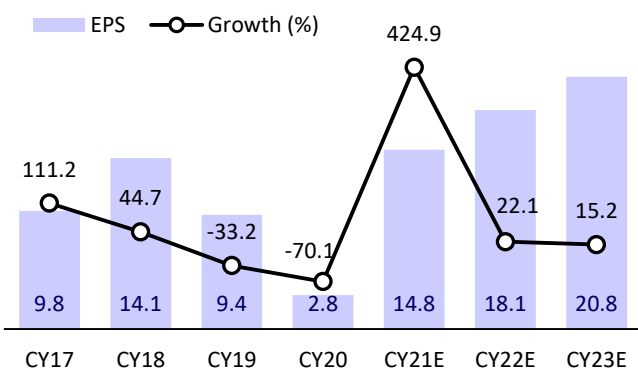
Source: Company, MOFSL

Exhibit 10: Expect EBITDA margin to recover in CY21E



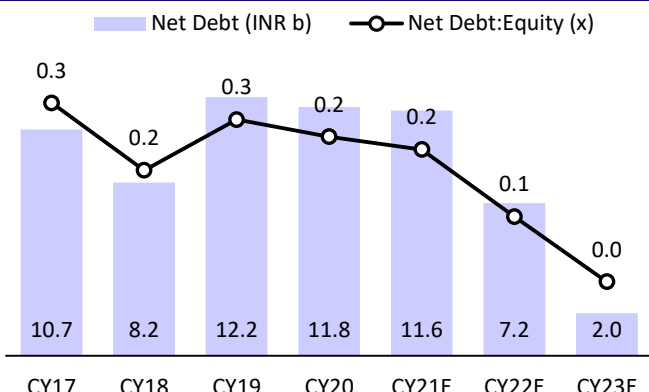
Source: Company, MOFSL

Exhibit 11: Expect consolidated EPS to recover sharply in CY21E



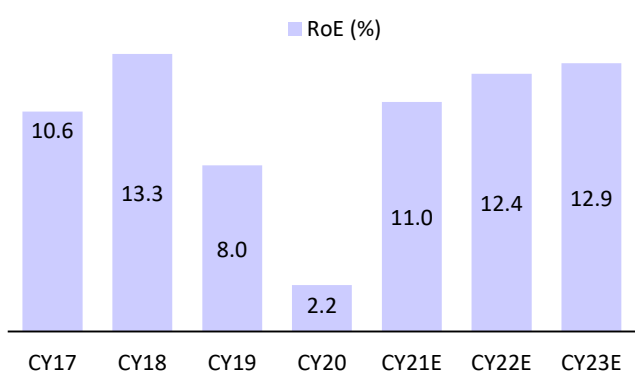
Source: Company, MOFSL

Exhibit 12: Net debt to reduce substantially by CY23E



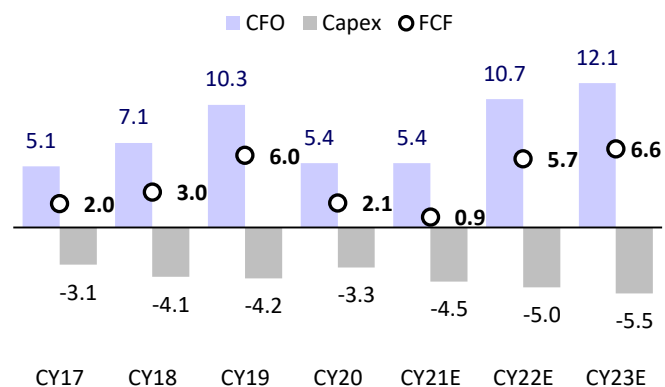
Source: Company, MOFSL

Exhibit 13: RoE to start improving from CY22E



Source: Company, MOFSL

Exhibit 14: FCF positive throughout, except CY19, due to the AEL acquisition



Source: Company, MOFSL

Exhibit 15: Key operating metrics

INR m	CY16	CY17	CY18	CY19	CY20	CY21E	CY22E
Revenue							
Forgings	36,436	45,474	56,132	51,519	37,465	50,941	56,137
Growth (%)		25	23	-8	-27	36	10
India (excl. BFL)	3,868	4,364	5,971	11,921	9,584	13,418	16,101
Growth (%)		13	37	100	-20	40	20
BFL	1,750	6,917	8,210	1,950	950	1,473	1,520
Growth (%)		295	19	-76	-51	55	3
MFE Europe	16,009	17,316	21,095	16,604	11,782	15,072	13,866
Growth (%)		8	22	-21	-29	28	-8
CIE Europe	14,809	16,876	20,857	21,044	15,149	20,979	24,650
Growth (%)		14	24	1	-28	38	17
Gears	5,106	4,716	7,642	7,677	5,569	7,861	8,656
Growth (%)		-8	62	0	-27	41	10
India	1,469	828	2,071	2,196	2,327	2,467	2,615
Growth (%)		-44	150	6	6	6	6
Metalcastello	3,637	3,888	5,571	5,482	3,242	5,394	6,041
Growth (%)		7	43	-2	-41	66	12
Stampings	6,342	8,015	9,149	8,410	5,265	7,898	9,477
Growth (%)		26	14	-8	-37	50	20
Castings	3,652	4,177	5,422	4,237	3,152	5,043	5,800
Growth (%)		14	30	-22	-26	60	15
Composites	880	907	1,017	1,069	746	1,268	1,496
Growth (%)		3	12	5	-30	70	18
Magnets	1,338	1,292	1,355	1,068	984	1,673	2,007
Growth (%)		-3	5	-21	-8	70	20
Aluminum (AEL)				5,818	6,788	10,515	11,777
Growth (%)					17	55	12
Total Consol. Revenue	53,199	64,279	80,315	79,078	60,501	85,321	95,790
Growth (%)		21	25	-2	-23	41	12
EBITDA Margin	10.0	12.7	13.1	12.2	8.3	13.1	13.9
EBIT Margin	5.6	8.5	9.5	8.2	3.2	8.9	9.7
Adj. EPS (INR/Share)	4.6	9.8	14.1	9.4	2.8	14.8	18.1
Growth (%)		111	45	-33	-70	425	22

Source: Company, MOFSL

Financials and valuations

Consolidated Income Statement

Y/E December	CY16	CY17	CY18	CY19	CY20	CY21E	CY22E
Total Income from Operations	53,199	64,279	80,315	79,078	60,501	85,321	95,790
Change (%)	37.6	20.8	24.9	-1.5	-23.5	41.0	12.3
Total Expenditure	47,888	56,136	69,805	69,401	55,485	74,122	82,451
As a percentage of Sales	90.0	87.3	86.9	87.8	91.7	86.9	86.1
EBITDA	5,311	8,143	10,511	9,677	5,016	11,198	13,339
Margin (%)	10.0	12.7	13.1	12.2	8.3	13.1	13.9
Depreciation	2,325	2,683	2,867	3,161	3,064	3,643	4,029
EBIT	2,985	5,460	7,643	6,516	1,952	7,555	9,310
Int. and Finance Charges	594	510	502	523	548	521	501
Other Income	314	268	387	331	549	633	536
PBT bef. EO Exp.	2,706	5,217	7,529	6,324	1,953	7,667	9,345
EO Items	-90	-151	-504	-46	0	-1,132	0
PBT after EO Exp.	2,615	5,067	7,025	6,279	1,953	6,535	9,345
Total Tax	926	1,483	2,043	2,741	886	2,070	2,513
Tax Rate (%)	35.4	29.3	29.1	43.7	45.4	31.7	26.9
Minority Interest	0	0	0	0	0	0	0
Reported PAT	1,689	3,584	4,981	3,538	1,066	4,465	6,832
Adj. PAT	1,747	3,691	5,339	3,564	1,066	5,690	6,832
Change (%)	28.4	111.2	44.7	-33.2	-70.1	433.6	20.1
Margin (%)	3.3	5.7	6.6	4.5	1.8	6.7	7.1

Consolidated Balance Sheet

Y/E December	CY16	CY17	CY18	CY19	CY20	CY21E	CY22E
Equity Share Capital	3,781	3,784	3,788	3,790	3,790	3,790	3,790
Total Reserves	28,882	33,372	39,103	42,548	45,290	48,862	54,293
Net Worth	32,663	37,156	42,891	46,338	49,080	52,652	58,083
Minority Interest	0	0	0	0	0	0	0
Total Loans	13,621	11,969	16,134	14,691	16,476	16,476	16,477
Deferred Tax Liabilities	-1,710	-1,629	-1,565	912	1,236	2,661	2,661
Capital Employed	44,575	47,496	57,460	61,941	66,792	71,789	77,221
Gross Block	22,912	28,418	32,235	42,936	53,135	56,758	61,757
Less: Accum. Deprn.	5,077	9,279	12,294	17,619	23,204	26,848	30,877
Net Fixed Assets	17,835	19,139	19,941	25,316	29,931	29,911	30,880
Goodwill on Consolidation	27,338	28,364	29,111	35,260	37,554	37,554	37,554
Capital WIP	967	602	960	542	123	1,000	1,001
Total Investments	389	550	6,808	955	2,340	2,340	2,340
Curr. Assets, Loans and Adv.	20,109	24,705	26,455	23,553	23,686	28,476	37,328
Inventory	8,352	9,898	12,286	10,566	10,062	11,778	13,328
Account Receivables	5,219	5,984	7,414	7,368	7,054	7,948	9,185
Cash and Bank Balance	981	719	1,127	1,499	2,380	2,777	7,151
Loans and Advances	5,557	8,103	5,628	4,120	4,190	5,972	7,663
Curr. Liability and Prov.	22,063	25,865	25,815	23,686	26,843	27,491	31,880
Account Payables	15,258	15,743	16,838	14,771	14,590	16,246	18,297
Other Current Liabilities	3,316	6,477	5,038	4,745	7,909	5,119	6,705
Provisions	3,489	3,644	3,939	4,170	4,344	6,126	6,878
Net Current Assets	-1,953	-1,160	640	-133	-3,157	984	5,447
Appl. of Funds	44,575	47,496	57,460	61,941	66,791	71,789	77,222

Financials and valuations

Ratios

Y/E December	CY16	CY17	CY18	CY19	CY20	CY21E	CY22E
Basic (INR)							
EPS	4.6	9.8	14.1	9.4	2.8	15.0	18.1
Cash EPS	10.8	16.9	21.7	17.8	10.9	24.7	28.7
BV/Share	86.4	98.3	113.4	122.6	129.8	139.3	153.6
DPS	0.0	0.0	0.0	0.0	0.0	2.0	3.1
Payout (%)	0.0	0.0	0.0	0.0	0.0	16.7	17.0
Valuation (x)							
P/E	54.3	25.7	17.8	26.6	88.9	16.7	13.9
Cash P/E	23.3	14.9	11.6	14.1	23.0	10.2	8.7
P/BV	2.9	2.6	2.2	2.0	1.9	1.8	1.6
EV/Sales	2.0	1.7	1.4	1.4	1.8	1.3	1.1
EV/EBITDA	20.2	13.0	10.5	11.2	21.8	9.7	7.8
Dividend Yield (%)	0.0	0.0	0.0	0.0	0.0	0.8	1.2
FCF per share	2.3	5.3	7.9	15.9	5.4	2.3	15.1
Return Ratios (%)							
RoE	6.6	10.6	13.3	8.0	2.2	11.2	12.3
RoCE (Post-tax)	5.8	8.8	10.9	6.5	2.1	8.1	9.7
RoIC	5.5	8.8	11.5	6.8	1.8	8.1	10.3
Working Capital Ratios							
Fixed Asset Turnover (x)	2.3	2.3	2.5	1.8	1.1	1.5	1.6
Asset Turnover (x)	1.2	1.4	1.4	1.3	0.9	1.2	1.2
Inventory (Days)	57	56	56	49	61	50	51
Debtor (Days)	36	34	34	34	43	34	35
Creditor (Days)	105	89	77	68	88	69	70
Leverage Ratio (x)							
Net Debt/Equity	0.4	0.3	0.2	0.3	0.2	0.2	0.1

Consolidated Cash Flow Statement

(INR m)

Y/E December	CY16	CY17	CY18	CY19	CY20	CY21E	CY22E
OP/(Loss) before Tax	2,616	5,067	7,025	6,279	1,953	7,667	9,345
Depreciation	2,325	2,734	2,898	3,168	3,064	3,643	4,029
Interest and Finance Charges	594	545	525	525	548	-112	-35
Direct Taxes Paid	-593	-1,077	-1,444	-1,161	-503	-2,070	-2,513
(Inc.)/Dec. in WC	-1,881	-2,193	-1,769	1,556	761	-3,744	-89
CF from Operations	3,060	5,076	7,235	10,367	5,823	5,384	10,738
Others	-21	46	-155	-94	-430	0	0
CF from Operations incl. EO	3,040	5,122	7,080	10,273	5,393	5,384	10,738
(Inc.)/Dec. in FA	-2,158	-3,105	-4,101	-4,238	-3,343	-4,500	-5,000
Free Cash Flow	882	2,017	2,979	6,035	2,050	884	5,738
(Pur.)/Sale of Investments	284	-183	-6,201	-1,871	-1,376	0	0
Others	-6,434	260	129	219	502	633	536
CF from Investments	-8,308	-3,028	-10,173	-5,890	-4,217	-3,867	-4,464
Issue of Shares	4,525	66	57	30	0	0	0
Inc./(Dec.) in Debt	1,817	-1,877	4,089	-3,545	506	0	1
Interest Paid	-594	-545	-525	-525	-477	-521	-501
Dividend Paid	0	0	0	0	0	-744	-1,162
Others	0	0	0	0	-409	0	0
CF from Fin. Activity	5,748	-2,356	3,621	-4,040	-380	-1,265	-1,663
Inc./Dec. in Cash	480	-262	528	343	796	252	4,612
Opening Balance	502	981	719	1,247	1,590	2,386	2,638
Closing Balance	981	719	1,247	1,590	2,386	2,638	7,250

NOTES

Explanation of Investment Rating	
Investment Rating	Expected return (over 12-month)
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

*In case the recommendation given by the Research Analyst is inconsistent with the investment rating legend for a continuous period of 30 days, the Research Analyst shall within following 30 days take appropriate measures to make the recommendation consistent with the investment rating legend.

Disclosures

The following Disclosures are being made in compliance with the SEBI Research Analyst Regulations 2014 (herein after referred to as the Regulations). Motilal Oswal Financial Services Ltd. (MOFSL) is a SEBI Registered Research Analyst having registration no. INH000000412. MOFSL, the Research Entity (RE) as defined in the Regulations, is engaged in the business of providing Stock broking services, Investment Advisory Services, Depository participant services & distribution of various financial products. MOFSL is a subsidiary company of Passionate Investment Management Pvt. Ltd.. (PIMPL). MOFSL is a listed public company, the details in respect of which are available on www.motilaloswal.com. MOFSL (erstwhile Motilal Oswal Securities Limited - MOSL) is registered with the Securities & Exchange Board of India (SEBI) and is a registered Trading Member with National Stock Exchange of India Ltd. (NSE) and Bombay Stock Exchange Limited (BSE), Multi Commodity Exchange of India Limited (MCX) and National Commodity & Derivatives Exchange Limited (NCDEX) for its stock broking activities & is Depository participant with Central Depository Services Limited (CDSL) National Securities Depository Limited (NSDL), NERL, COMRIS and CCRL and is member of Association of Mutual Funds of India (AMFI) for distribution of financial products and Insurance Regulatory & Development Authority of India (IRDA) as Corporate Agent for insurance products. Details of associate entities of Motilal Oswal Financial Services Limited are available on the website at <http://onlinereports.motilaloswal.com/Dormant/documents/List%20of%20Associate%20companies.pdf>

MOFSL and its associate company(ies), their directors and Research Analyst and their relatives may; (a) from time to time, have a long or short position in, act as principal in, and buy or sell the securities or derivatives thereof of companies mentioned herein. (b) be engaged in any other transaction involving such securities and earn brokerage or other compensation or act as a market maker in the financial instruments of the company(ies) discussed herein or act as an advisor or lender/borrower to such company(ies) or may have any other potential conflict of interests with respect to any recommendation and other related information and opinions.; however the same shall have no bearing whatsoever on the specific recommendations made by the analyst(s), as the recommendations made by the analyst(s) are completely independent of the views of the associates of MOFSL even though there might exist an inherent conflict of interest in some of the stocks mentioned in the research report

MOFSL and / or its affiliates do and seek to do business including investment banking with companies covered in its research reports. As a result, the recipients of this report should be aware that MOFSL may have a potential conflict of interest that may affect the objectivity of this report. Compensation of Research Analysts is not based on any specific merchant banking, investment banking or brokerage service transactions. Details of pending Enquiry Proceedings of Motilal Oswal Financial Services Limited are available on the website at <https://galaxy.motilaloswal.com/ResearchAnalyst/PublishViewLitigation.aspx>

A graph of daily closing prices of securities is available at www.nseindia.com, www.bseindia.com. Research Analyst views on Subject Company may vary based on Fundamental research and Technical Research. Proprietary trading desk of MOFSL or its associates maintains arm's length distance with Research Team as all the activities are segregated from MOFSL research activity and therefore it can have an independent view with regards to Subject Company for which Research Team have expressed their views.

Regional Disclosures (outside India)

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 MOFSL & its group companies to registration or licensing requirements within such jurisdictions.

For Hong Kong:

This report is distributed in Hong Kong by Motilal Oswal capital Markets (Hong Kong) Private Limited, a licensed corporation (CE AYY-301) licensed and regulated by the Hong Kong Securities and Futures Commission (SFC) pursuant to the Securities and Futures Ordinance (Chapter 571 of the Laws of Hong Kong) "SFO". As per SEBI (Research Analyst Regulations) 2014 Motilal Oswal Securities (SEBI Reg No. INH000000412) has an agreement with Motilal Oswal capital Markets (Hong Kong) Private Limited for distribution of research report in Hong Kong. This report is intended for distribution only to "Professional Investors" as defined in Part I of Schedule 1 to SFO. Any investment or investment activity to which this document relates is only available to professional investor and will be engaged only with professional investors." Nothing here is an offer or solicitation of these securities, products and services in any jurisdiction where their offer or sale is not qualified or exempt from registration. The Indian Analyst(s) who compile this report is/are not located in Hong Kong & are not conducting Research Analysis in Hong Kong.

For U.S.

Motilal Oswal Financial Services Limited (MOFSL) is not a registered broker - dealer under the U.S. Securities Exchange Act of 1934, as amended (the "1934 act") and under applicable state laws in the United States. In addition MOFSL is not a registered investment adviser under the U.S. Investment Advisers Act of 1940, as amended (the "Advisers Act") and together with the 1934 Act, the "Acts), and under applicable state laws in the United States. Accordingly, in the absence of specific exemption under the Acts, any brokerage and investment services provided by MOFSL, including the products and services described herein are not available to or intended for U.S. persons. This report is intended for distribution only to "Major Institutional Investors" as defined by Rule 15a-6(b)(4) of the Exchange Act and interpretations thereof by SEC (henceforth referred to as "major institutional investors"). This document must not be acted on or relied on by persons who are not major institutional investors. Any investment or investment activity to which this document relates is only available to major institutional investors and will be engaged in only with major institutional investors. In reliance on the exemption from registration provided by Rule 15a-6 of the U.S. Securities Exchange Act of 1934, as amended (the "Exchange Act") and interpretations thereof by the U.S. Securities and Exchange Commission ("SEC") in order to conduct business with Institutional Investors based in the U.S., MOFSL has entered into a chaperoning agreement with a U.S. registered broker-dealer, Motilal Oswal Securities International Private Limited. ("MOSIPL"). Any business interaction pursuant to this report will have to be executed within the provisions of this chaperoning agreement.

The Research Analysts contributing to the report may not be registered /qualified as research analyst with FINRA. Such research analyst may not be associated persons of the U.S. registered broker-dealer, MOSIPL, and therefore, may not be subject to NASD rule 2711 and NYSE Rule 472 restrictions on communication with a subject company, public appearances and trading securities held by a research analyst account.

For Singapore

In Singapore, this report is being distributed by Motilal Oswal Capital Markets Singapore Pte Ltd ("MOCMSPL") (Co.Reg. NO. 201129401Z) which is a holder of a capital markets services license and an exempt financial adviser in Singapore. As per the approved agreement under Paragraph 9 of Third Schedule of Securities and Futures Act (CAP 289) and Paragraph 11 of First Schedule of Financial Advisors Act (CAP 110) provided to MOCMSPL by Monetary Authority of Singapore. Persons in Singapore should contact MOCMSPL in respect of any matter arising from, or in connection with this report/publication/communication. This report is distributed solely to persons who qualify as "Institutional Investors", of which some of whom may consist of "accredited" institutional investors as defined in section 4A(1) of the Securities and Futures Act, Chapter 289 of Singapore ("the SFA"). Accordingly, if a Singapore person is not or ceases to be such an institutional investor, such Singapore Person must immediately discontinue any use of this Report and inform MOCMSPL.

Specific Disclosures

- 1 MOFSL, Research Analyst and/or his relatives does not have financial interest in the subject company, as they do not have equity holdings in the subject company.
- 2 MOFSL, Research Analyst and/or his relatives do not have actual/beneficial ownership of 1% or more securities in the subject company
- 3 MOFSL, Research Analyst and/or his relatives have not received compensation/other benefits from the subject company in the past 12 months
- 4 MOFSL, Research Analyst and/or his relatives do not have material conflict of interest in the subject company at the time of publication of research report
- 5 Research Analyst has not served as director/officer/employee in the subject company
- 6 MOFSL has not acted as a manager or co-manager of public offering of securities of the subject company in past 12 months
- 7 MOFSL has not received compensation for investment banking/ merchant banking/brokerage services from the subject company in the past 12 months
- 8 MOFSL has not received compensation for other than investment banking/merchant banking/brokerage services from the subject company in the past 12 months
- 9 MOFSL has not received any compensation or other benefits from third party in connection with the research report
- 10 MOFSL has not engaged in market making activity for the subject company

The associates of MOFSL may have:

- financial interest in the subject company
- actual/beneficial ownership of 1% or more securities in the subject company
- received compensation/other benefits from the subject company in the past 12 months
- other potential conflict of interests with respect to any recommendation and other related information and opinions.; however the same shall have no bearing whatsoever on the specific recommendations made by the analyst(s), as the recommendations made by the analyst(s) are completely independent of the views of the associates of MOFSL even though there might exist an inherent conflict of interest in some of the stocks mentioned in the research report.
- acted as a manager or co-manager of public offering of securities of the subject company in past 12 months
- be engaged in any other transaction involving such securities and earn brokerage or other compensation or act as a market maker in the financial instruments of the company(ies) discussed herein or act as an advisor or lender/borrower to such company(ies)
- received compensation from the subject company in the past 12 months for investment banking / merchant banking / brokerage services or from other than said services.

The associates of MOFSL has not received any compensation or other benefits from third party in connection with the research report

Above disclosures include beneficial holdings lying in demat account of MOFSL which are opened for proprietary investments only. While calculating beneficial holdings, It does not consider demat accounts which are opened in name of MOFSL for other purposes (i.e holding client securities, collaterals, error trades etc.). MOFSL also earns DP income from clients which are not considered in above disclosures.

Analyst Certification

The views expressed in this research report accurately reflect the personal views of the analyst(s) about the subject securities or issues, and no part of the compensation of the research analyst(s) was, is, or will be directly or indirectly related to the specific recommendations and views expressed by research analyst(s) in this report.

Terms & Conditions:

This report has been prepared by MOFSL and is meant for sole use by the recipient and not for circulation. The report and information contained herein is strictly confidential and may not be altered in any way, transmitted to, copied or distributed, in part or in whole, to any other person or to the media or reproduced in any form, without prior written consent of MOFSL. The report is based on the facts, figures and information that are considered true, correct, reliable and accurate. The intent of this report is not recommendatory in nature. The information is obtained from publicly available media or other sources believed to be reliable. Such information has not been independently verified and no guaranty, representation of warranty, express or implied, is made as to its accuracy, completeness or correctness. All such information and opinions are subject to change without notice. The report is prepared solely for informational purpose and does not constitute an offer document or solicitation of offer to buy or sell or subscribe for securities or other financial instruments for the clients. Though disseminated to all the customers simultaneously, not all customers may receive this report at the same time. MOFSL will not treat recipients as customers by virtue of their receiving this report.

Disclaimer:

The report and information contained herein is strictly confidential and meant solely for the selected recipient and may not be altered in any way, transmitted to, copied or distributed, in part or in whole, to any other person or to the media or reproduced in any form, without prior written consent. This report and information herein is solely for informational purpose and may not be used or considered as an offer document or solicitation of offer to buy or sell or subscribe for securities or other financial instruments. Nothing in this report constitutes investment, legal, accounting and tax advice or a representation that any investment or strategy is suitable or appropriate to your specific circumstances. The securities discussed and opinions expressed in this report may not be suitable for all investors, who must make their own investment decisions, based on their own investment objectives, financial positions and needs of specific recipient. This may not be taken in substitution for the exercise of independent judgment by any recipient. Each recipient of this document should make such investigations as it deems necessary to arrive at an independent evaluation of an investment in the securities of companies referred to in this document (including the merits and risks involved), and should consult its own advisors to determine the merits and risks of such an investment. The investment discussed or views expressed may not be suitable for all investors. Certain transactions -including those involving futures, options, another derivative products as well as non-investment grade securities - involve substantial risk and are not suitable for all investors. No representation or warranty, express or implied, is made as to the accuracy, completeness or fairness of the information and opinions contained in this document. The Disclosures of Interest Statement incorporated in this document is provided solely to enhance the transparency and should not be treated as endorsement of the views expressed in the report. This information is subject to change without any prior notice. The Company reserves the right to make modifications and alternations to this statement as may be required from time to time without any prior approval. MOFSL, its associates, their directors and the employees may from time to time, effect or have effected an own account transaction in, or deal as principal or agent in or for the securities mentioned in this document. They may perform or seek to perform investment banking or other services for, or solicit investment banking or other business from, any company referred to in this report. Each of these entities functions as a separate, distinct and independent of each other. The recipient should take this into account before interpreting the document. This report has been prepared on the basis of information that is already available in publicly accessible media or developed through analysis of MOFSL. The views expressed are those of the analyst, and the Company may or may not subscribe to all the views expressed therein. This document is being supplied to you solely for your information and may not be reproduced, redistributed or passed on, directly or indirectly, to any other person or published, copied, in whole or in part, for any purpose. This report is not directed or intended for distribution to, or use by, any person or entity who is a citizen or resident of or located in any locality, state, country or other jurisdiction, where such distribution, publication, availability or use would be contrary to law, regulation or which would subject MOFSL to any registration or licensing requirement within such jurisdiction. The securities described herein may or may not be eligible for sale in all jurisdictions or to certain category of investors. Persons in whose possession this document may come are required to inform themselves of and to observe such restriction. Neither the Firm, not its directors, employees, agents or representatives shall be liable for any damages whether direct or indirect, incidental, special or consequential including lost revenue or lost profits that may arise from or in connection with the use of the information. The person accessing this information specifically agrees to exempt MOFSL or any of its affiliates or employees from, any and all responsibility/liability arising from such misuse and agrees not to hold MOFSL or any of its affiliates or employees responsible for any such misuse and further agrees to hold MOFSL or any of its affiliates or employees free and harmless from all losses, costs, damages, expenses that may be suffered by the person accessing this information due to any errors and delays.

Registered Office Address: Motilal Oswal Tower, Rahimtullah Sayani Road, Opposite Parel ST Depot, Prabhadevi, Mumbai-400025; Tel No.: 022 71934200/ 022-71934263; Website www.motilaloswal.com. CIN no.: L67190MH2005PLC153397. Correspondence Office Address: Palm Spring Centre, 2nd Floor, Palm Court Complex, New Link Road, Malad(West), Mumbai- 400 064. Tel No: 022 7188 1000.

Registration Nos.: Motilal Oswal Financial Services Limited (MOFSL)*: INZ000158836(BSE/NSE/MCX/NCDEX); CDSL and NSDL: IN-DP-16-2015; Research Analyst: INH000000412. AMFI: ARN - 146822; Investment Adviser: INA000007100; Insurance Corporate Agent: CA0579;PMS:INP000006712. Motilal Oswal Asset Management Company Ltd. (MOAMC): PMS (Registration No.: INP000000670); PMS and Mutual Funds are offered through MOAMC which is group company of MOFSL. Motilal Oswal Wealth Management Ltd. (MOWML): PMS (Registration No.: INP000004409) is offered through MOWML, which is a group company of MOFSL. Motilal Oswal Financial Services Limited is a distributor of Mutual Funds, PMS, Fixed Deposit, Bond, NCDs, Insurance Products and IPOs. Real Estate is offered through Motilal Oswal Real Estate Investment Advisors II Pvt. Ltd. which is a group company of MOFSL. Private Equity is offered through Motilal Oswal Private Equity Investment Advisors Pvt. Ltd which is a group company of MOFSL. Research & Advisory services is backed by proper research. Please read the Risk Disclosure Document prescribed by the Stock Exchanges carefully before investing. There is no assurance or guarantee of the returns. Investment in securities market is subject to market risk, read all the related documents carefully before investing. Details of Compliance Officer: Name: Neeraj Agarwal, Email ID: na@motilaloswal.com, Contact No.:022-71881085.

* MOSL has been amalgamated with Motilal Oswal Financial Services Limited (MOFSL) w.e.f August 21, 2018 pursuant to order dated July 30, 2018 issued by Hon'ble National Company Law Tribunal, Mumbai Bench.