AIA Engineering Ltd.	
No. of shares (m)	94.3
Mkt cap (Rs crs/$m)	17816/2452.1
Current price (Rs/$)	1889/26.0
Price target (Rs/$)	2295/31.6
52 W H/L (Rs.)	2234/1150
Book Value (Rs/$)	433/6.0
Beta	0.1
Daily volume NSE (avg. monthly)	142030
P/BV (FY21e/22e)	4.3/3.8
EV/EBITDA (FY21e/22e)	18.2/16.7
P/E (FY21e/22e)	30.2/28.0
EPS growth (FY20/21e/22e)	15.4/0.0/8.0
OPM (FY20/21e/22e)	23.0/24.1/24.3
ROE (FY20/21e/22e)	16.7/15.1/14.5
ROCE(FY20/21e/22e)	16.3/14.9/14.4
D/E ratio (FY20/21e/22e)	0.0/0.0/0.0
BSE Code	532683
NSE Code	AIAENG
Bloomberg	AIAE IN
Reuters	AIAE.NS

Shareholding pattern	%
Promoters	58.5
MFs / Banks / FIs/Others	18.2
FPIs	20.2
Govt. Holding	0.3
Public & Others	2.8
Total	**100.0**

As on Dec 31, 2020

Recommendation

BUY

Analyst

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Company Brief

AIA Engineering is engaged in designing, development and manufacturing of grinding media, liners, diaphragms and vertical mill parts which finds application in grinding and crushing operations in mining, cement and thermal power generation. The current installed capacity of the company stands at 3.9 lakh tons. Its wholly owned subsidiary, Vega Industries, undertakes supply of its goods worldwide.

Highlights

- Scarcely wavering focus on metallurgy, new product development and grinding process technology has helped AIA over the years to develop high chrome solutions which can reduce wear cost, increase throughput in grinding process and improve recovery in down process. Understanding application of right alloys inside mills is critical to achieving high efficiency in grinding process in cement and mining industries.
- Low penetration of high chrome internals for the global mining sector (less than a fifth of the total 2.5 mn ton market) has left no miniscule conversion opportunities for global majors like AIA and Magotteaux. Relentless trial and error runs augmented with enhanced R&D resources have enabled AIA to custom design products for new clients.
- Foray in mill linings for grinding mills for the mining industry - the same for cement industry has been in place for last 20 years - with the help of a technical collaboration with a US Company would further increase throughputs and optimize costs. Thence, it is setting up a 50000 mt lining facility which would commission production by first half of next fiscal.
- Though AIA has built great specialization in developing high chrome mill internals by cutting edge technological processes, thus imparting it a sort of competitive advantage, scalability of the business rests on conversion to high chrome in mining sector as cement industry offers little scope of scale up.
- The stock currently trades at 30.2x FY21e EPS of Rs 62.52 and 28x FY22e EPS of Rs 67.50. Post tax earnings are projected to grow by some 8% next fiscal on some 7% growth in volumes driven by mining sector; though FY23 is estimated to show robust volume growth as businesses fully opens up. Much of the growth beyond next fiscal would depend on the speed of migration from forged internals - a factor of customized products and deeper customer engagements. As 70-80% of AIA's turnover accrue from existing clients (by some management's estimate), new client acquisitions hold the key for business growth. On balance, we assign a buy rating on the stock with target of Rs 2295 based on 34x FY22e earnings.

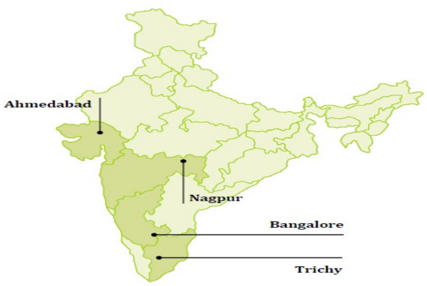
(Figures in Rs crs)	FY18	FY19	FY20	FY21e	FY22e
Income from operations	2445.13	3069.50	2980.88	2838.92	3114.94
Other Income	121.81	120.92	141.91	192.35	194.39
EBITDA (other income included)	661.43	784.37	826.67	876.23	951.32
Profit after EO	443.15	511.07	589.89	589.65	636.62
EPS (Rs)	46.98	54.18	62.54	62.52	67.50
EPS growth (%)	-3.0	15.3	15.4	0.0	8.0

Company Overview

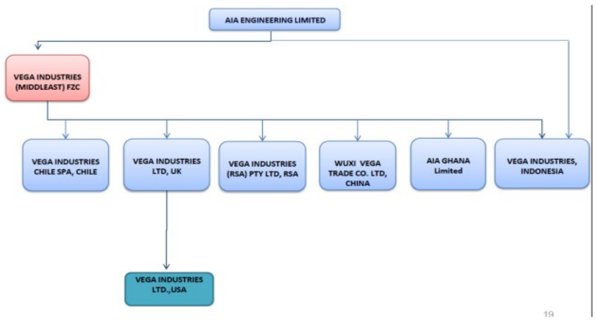
Established almost three decades back, AIA Engineering has now emerged as one of the world's largest producers of value added high chrome mill internals (HCMI). Put differently, the company specializes in designing, development and manufacturing of products such as grinding media, liners, diaphragms and vertical mill parts (collectively referred to as mill internals). Its products find application in grinding and crushing operations in mining, cement and thermal power generation. Having a local presence in strategic locations either through subsidiaries or representative offices across the globe has helped it tap customers in more than 120 nations worldwide.

Metallurgy, new product development and grinding process technology form key focus areas of the company. Through trial & error efforts backed by strong R&D, the company over the years has managed to develop high chrome solutions which can reduce wear cost, optimize power consumption and increase throughput in grinding process and improve recovery in down process. In other words, the company products are produced in high chrome metallurgy which offers wear resistance and thus ensures a longer wear life. Customization holds the key for it provides customers with optimized solutions through technical evaluation of their process requirements, thereby offering suitable design solutions in ideal metallurgy for the application. It employs casting process for manufacturing its wares. AIA's international reach is augmented by Vega Industries, its wholly owned subsidiary, which supplies products and provides technical services to customers worldwide.

AIA Plant locations



AIA Group Structure



Source: AIA

Product Profile

AIA largely caters to mining, cement, power and aggregates for their grinding and crushing solutions

Mining

AIA Engineering provides long lasting wear components for mining applications which helps improve throughputs. Its offerings in this business (segment) are classified into tube mill internals and rod mill internals. Most prominent products in tube mill internals include grinding media, inlet/outlet head liners, shell liners and diaphragms.

Grinding media

In mineral processing industry the company mainly deals in iron, platinum, copper and gold. AIA solutions for grinding media vary from mine to mine and ore to ore. This product helps in grinding of mineral ore before processing for separation of different materials.

Inlet/outlet head liners

AIA's head liners are custom tailored to maximize mill availability and minimize maintenance cost. It also helps in reducing wear rate of grinding media and shell liners, thereby greatly minimizing replacement cost.

Shell Liners

AIA Engineering designs mill liners for ball mills of various stages including single stage, primary, secondary, regrind etc. Its shell mill liners aid in achieving numerous operational benefits which include significant reduction of the wear rates of the ball and the liners, optimize lifting action of the balls and expansion of the ball charge.

Diaphragms

AIA has developed drying chamber and dopple rotator diaphragms that can maximize working life. Besides ensuring longer working life, its diaphragms are synchronized to liners and grinding media so as to reduce downtime for maintenance.

Cement

Grinding media

AIA has developed a whole series of alloys suited to different impact and abrasion conditions that can occur in cement industry, thus providing an effective alternative to conventional grinding media which can be affected by changing impact conditions, thus shortening work life, increasing downtime and increasing costs.

Shell liners

AIA Group produces inlet discharge head, first chamber and second chamber liners which can provide optimum productivity and power consumption for all types of tube mill used in the cement industry. Liners are custom tailored to maximize cost effectiveness of individual mills. Its cost effective liners ensure significant reduction in wear rates of balls and liners and optimization of grinding efficiency of second chamber

Diaphragms

Vega Industries along with AIA has developed hard wearing cost efficient diaphragms for cement manufacturing that offer maximum useful working life.

Grinding rolls

Vega Industries along with its parent, AIA supplies grinding rolls for vertical mills in the cement industry. As abrasion is the most dominant factor in determining the working life of vertical mill grinding elements, AIA Group supplies three types of alloy to cope with various abrasion conditions. For larger mills, the company can supply castings of up to 20 tons in weight.

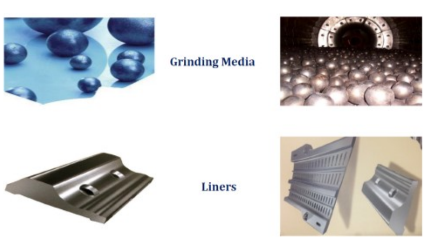
HRCS Casting

AIA supplies castings for pre-heaters, kilns and coolers in cement manufacturing. The company provides options to choose different grades and specifications which can improve reliability and working life of the unit.

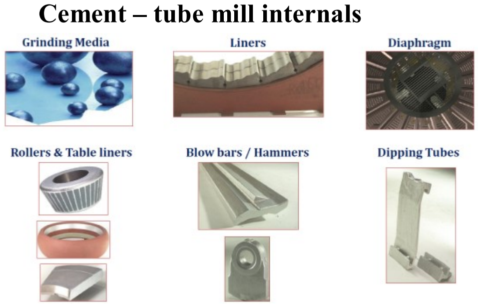
Crusher parts

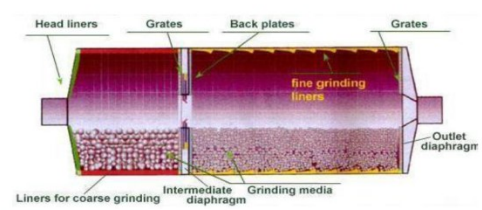
AIA supplies wear parts for various crushers – cone crushers; hammer crushers; impellor crushers; vertical shaft impact crushers – which provide significant cost benefits when compared to conventionally manufactured products.

Mining – tube mill internals



Cement – tube mill internals





Source: AIA

Power

AIA Group manufactures tube mill internals (grinding media; shell liners) for the power sector. Its wear parts increases mill efficiency in the power sector. Through intense research, the Group has improved the working life of grinding media by as much as three times when compared to conventionally produced media. Other products in this power segment include grinding elements for vertical mills and high performance milling system (HPMS).

Aggregates

AIA Group also provides wear components for quarry applications. The components are supplied for all types of minerals including iron, gold, lead/zinc, bauxite, copper and phosphates. Since reduced downtime is critical for quarry operations, developing components that work harder and last longer are essential.

Thermal – vertical mill internals

Source: AIA

Industry	Products	Application
Cement	Wear parts for crushers, pre - heaters, kilns, cooler castings, grinding rolls, diaphragms	Grinding of limestone and clinker
Mining	Wear components like grinding media, shell liners, diaphragms etc for natural ores including iron, lead, zinc, gold, copper.	Grinding of mineral ore before processing for separation of different materials
Power	Grinding media, shell liners, high performance milling system (HPMS) etc	Grinding of coal before it is put in boiler
Aggregate	Wear components for quarrying applications	crushing of aggregates

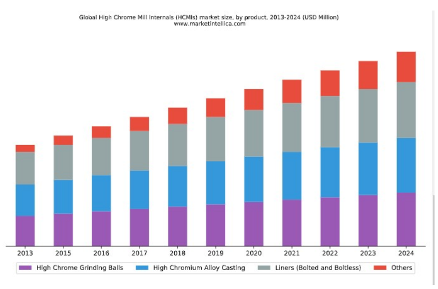
Source: AIA

Investment Thesis

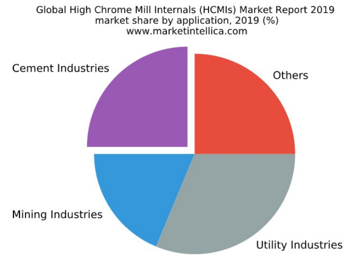
Industry prospects - High chrome mill internals

According to a report by marketreportsworld.com, high chrome mill internals, which are extensively used for grinding operations in cement and thermal power plants, are increasingly making inroads in the mining industry not least due to significant cost savings (30-40%) through lower wear rate, increased productivity and lower power consumption. This market so far has been served by forged media (manganese steel, nihard iron, hyper steel and forged steel internals).

Put differently, high chrome mill internals (HCMIs) are wear-resistant products which are used as wear parts in the crushing / grinding operations in the mills/plants of cement, mining and utility industries. As per the report, the global high chrome mill internals (HCMIs) market was valued at $1237.7 million in 2019 and it is expected to reach USD 2277.4 million by the end of 2026, growing at a CAGR of 9.0% during 2021-2026. A Market.us (Prudour Research) study pegs the global growth of high chrome mill internals at 13.8% during the decade ending 2028 with product application focused on mining, cement and utility industries and products categorized as high chrome grinding balls, high chromium alloy casting and liners (bolted and boltless).



www.marketintellica.com



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A publication by Global Market Monitor states that the influential factors that are stimulating the global high chrome mill internals market include growing adoption in cement and mining industry, benefits imparted by wear resistant nature of the materials and escalating demand for HCMIs technologies.

As per industry reports, annual replacement demand of grinding media is estimated at 2.5 million tons. Of this, less than a fifth is currently converted to high chrome while the balance is handled by forged grinding media. This represents a large potential opportunity to convert forged grinding media to high chrome.

Cement industry prospects

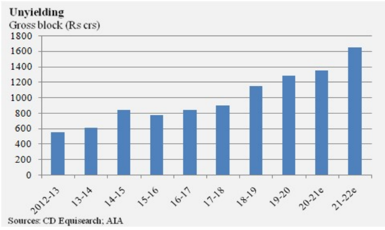
Although the prospects of AIAI's cement mill internals business barely appears brawny, it continues to make new alloy investments and work on design and process improvements to maintain market share. For instance, its non-mining sales volumes have grown by a scarcely pleasing 2.2% in five years ending FY20, casting little doubt on the fragility of cement industry demand. Much of the demand resurgence in this industry depends on infrastructure layout of western economies with replacement demand for mill internals barely supporting any perceptible business growth. Part of no small penetration in both cement and mining industries globally stems from the fact that the company has established local presence in strategic markets through subsidiaries and representative offices in places like USA, Canada, UK, China, UAE, South Africa and Australia.

Location of subsidiaries & offices

Source: AIA

Capex

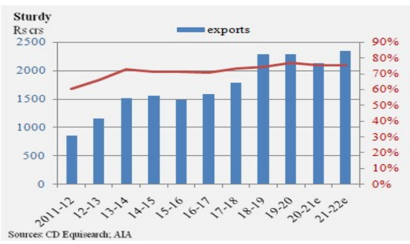
Much of the capacity enhancements in last few years presumably are aimed at tapping greater conversion of forged products in the mining sector at a time when capacity utilization rate has barely inched past 80% in most of the past few years. Since demand for high chrome products from the mining sector has all but flat lined, installing capacities with an unwavering focus on gaining market share scarcely does not make sense; though the move has barely propitious effect on return on capital due to lag effect. To service the mining industry, plans are intensified to commission 50000 tons mill liners greenfield facility with cost of Rs 250 crs by first half of next fiscal, though unexpected delays in commissioning so far have anything but great impact due to long gestation period of the project - by some measure the project may take some four years to reach its optimum capacity.



Trampled by little beneficial impact of Covid 19 which precipitated cut in mining capex and curtailed travel, AIA has now deferred second phase of 50000 mt grinding media plant; the first phase of 50000 mt was commissioned in FY20 taking the total installed capacity to 3.9 lakh tons. With restrictions on overseas travel likely to continue for the first quarter of next fiscal, capacity utilization rate would barely stay elevated till then. Much of the gains in utilization rate depend on newer customer acquisitions which requires intense client engagement at the production site.

Exports

Given the global application of its products and no small capacities, the company has over the years gradually ramped up its exports - for instance outbound shipments have grown at over 8% (annually) in five years ending FY20. Much of the focus of AIA's rank and file is on expanding the overseas mining business where demand opportunities galore. With this aim the company has tapped business in various ores and expanded its geographical presence in major mining centres like North America, Latin America, Australia, Africa and Far East Asia. Much of this diversification has set its sight on reducing business risks emanating from presence in specific regions. Yet risk of foreign exchange fluctuation barely seems insipid, thus requiring continuous monitoring and hedging.

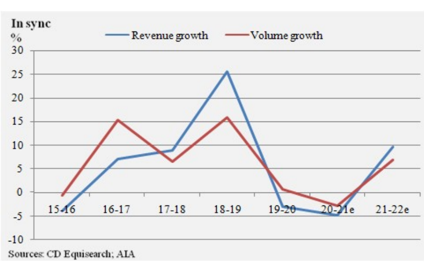


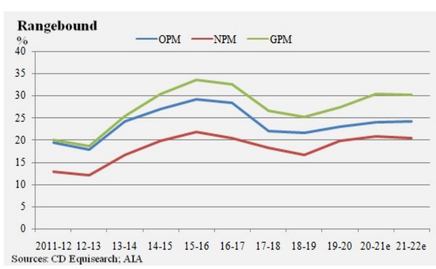
Clients

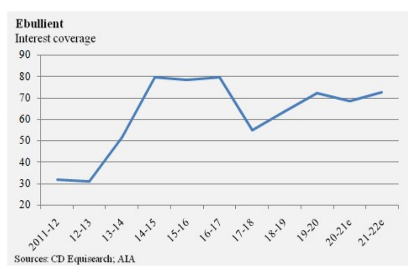
Although new client acquisitions has taken a severe hit during Covid -19 as travel restrictions across the world has brought client engagements to a virtual halt. Wherefore, AIA's revenues has slid some 5% so far this fiscal. Yet years of experience in understanding metallurgy and technical wherewithal has enabled the company to court over 500 customers across the globe with top rung firms across mining, cement and thermal power industries. Some of its mining clients include global majors such as Rio Tinto, Anglo American, BHP Billiton, Vale, Arcelor Mittal, while cement industry clients encompass Lafarge, Holcim, Heidelberg, Cemex and Polysius. Its thermal power business, though not a large contributor to overall business, has a little slackening client list with names like National Thermal Power Corporation, BHEL, Doosan Corporation, Hitachi and Alstom.

Financials & Valuation

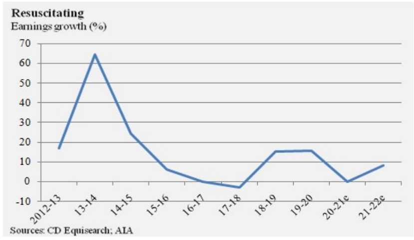
Barely unenthused by rewarding prospects of global high chrome mill internals market - 9% CAGR growth estimated between 2021 and 2026 - and undeterred by demand setbacks due to the pandemic, AIA Engineering has pulled out all stops to built capacities, create scarcely small cash reserves and fortify progress towards just in time delivery by setting up warehouses. Cost of higher inventories notwithstanding, the company has set up warehouses in USA, UK, South Africa, Netherlands, Australia and Ghana to take on the might of Magotteaux who has plants at several world locations which ensures faster product deliveries.

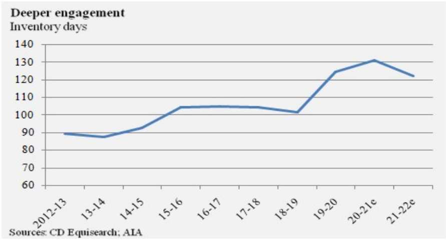






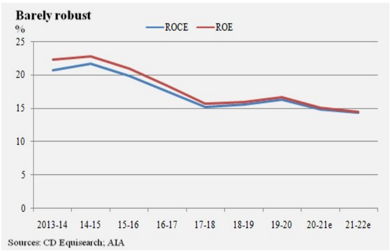
Not unstamped by the Covid-19 pandemic, AIA's overall sales volumes well nigh flat lined in the first nine months of the current fiscal as global lockdowns shattered supply chains and shutdown businesses. Though volumes have rebounded post June, overall post tax earnings are down some 3.6% so far this fiscal. Though recovery is round the corner but resurgence of infections could stymie easing travel restrictions, thus providing little upside to the estimated 7% volume growth next fiscal.

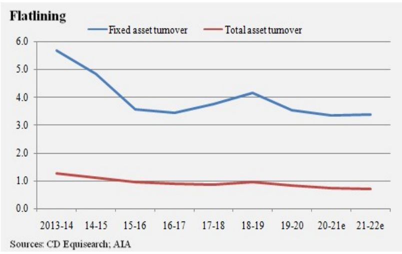




Investigations in to alleged dumping and subsidizing of grinding media from India by the Canada Border Services Agency (CBSA) for some 25000 mt supplies by Vega Industries, AIA's overseas subsidiary, would do little to support volume growth next fiscal . The investigation is initiated on a complaint filed by Magotteaux. Yet post waning effects of the pandemic in FY23, AIA's volumes growth is estimated to grow in mid-teens bolstered by strong recovery in global mining industry.

The stock currently trades at 30.2x FY21e EPS of Rs 62.52 and 28x FY22e EPS of Rs 67.50. Post tax earnings are projected to grow by some 8% next fiscal on scarcely robust recovery in sales. Return on capital - ROE estimated at 14.5% in FY22 Vs 16.7% in FY20 - would continue to lurch as the company ramps up its cash reserves. Marginal increase in margins would fail to resurrect asset turnover ratios. Yet estimated recovery in global mining industry post FY22 would do anything but dampen earnings. AIA's global capacities in HCMI would lend much desired "velocity" to the forged media conversion. Weighing odds, we initiate coverage on the stock with a buy rating and target of Rs 2295 based on 34x FY22e earnings





Risks & Concerns

Operational risks

Since AIA Engineering along with its subsidiaries engages with clients in more than 120 countries, it is exposed to external risks of various kinds - be it geopolitical risks or foreign exchange risks or business risks of its various clients. Mining market issues, fluctuation in raw material prices and debtor defaults are some of the pertinent issues that could plague the company.

Raw material risks

Since most of the raw materials used by the company for manufacturing castings and mill internals are commodity in nature, the company has built-in pricing mechanisms with its clients - in form of pass through clauses or re-pricing new offers - to ward off impact of adverse price movements. Some of the risks are also mitigated by loading up materials during price crashes.

Foreign exchange risks

Given its no small exports (nearly 75% of standalone revenues) and little short foreign exposure, the company is a huge exchange earner .To counter its long fx exposure the company regularly engages in transactions selling forwards of various currencies (but largely US dollar); for instance it sold US dollar forwards worth some Rs 378 crs as on March 31, 2020 (standalone).

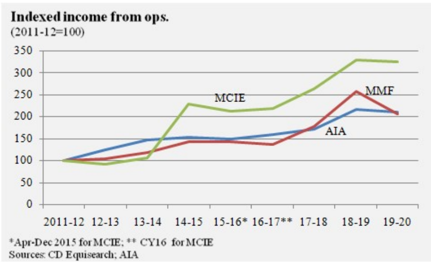
Cross Sectional Analysis

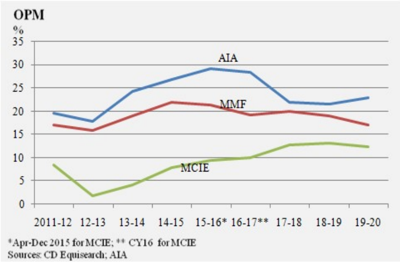
	Equity (Rs crs)	CMP (Rs)	Mcap* (Rs crs)	Sales (Rs crs)	NP (Rs crs)	OPM (%)	NPM (%)	Int. cov	ROE (%)	Mcap/sales	P/E	P/BV
AIA Engg.	19	1889	17816	2878	574	23.5	20.0	79.8	14.5	6.2	31.1	4.4
Mahindra CIE	379	162	6127	6050	107	8.3	1.8	4.6	9.4	1.0	57.5	5.3
MM Forgings	24	492	1189	598	23	14.6	3.8	1.9	4.8	2.0	51.7	2.4

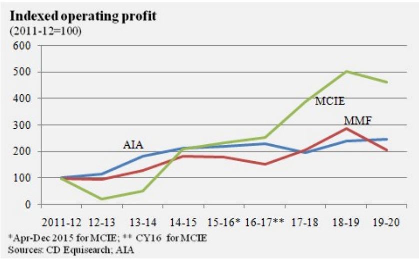
*figures in crores; calculations on ttm basis
Book value adjusted for goodwill and revaluation reserves where applicable; companies given in exhibit not exactly comparable.

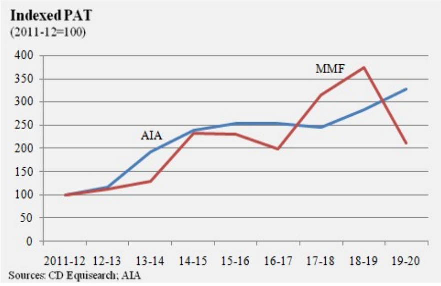
Notwithstanding demand recovery in India post June, Mahindra CIE India operations was adversely impacted in CY20 due to slowdown in Indian market due to Bharat VI transition in Q1 and pandemic related demand disruption in Q2. Its European operations were impacted by demand stress in commercial and off-road vehicles and the impact of pandemic in general. Plans are afoot to focus on value added products like machined castings, high grade magnets, complex gears etc for Indian market. It sees great export opportunities arising from India not least due to the PLI scheme and increased outsourcing from Europe. To counter the rising risk of increased penetration of EVs in Europe the company plans to increase its market share in crankshafts, focus on non-engine parts and introduce AL forgings.

Hamstrung by distressing impact of the pandemic which torpedoed demand for commercial vehicles, MM forgings reported over 64% drop in sales in Q1 of current fiscal. As economy reopened and demand for vehicles picked up, MM forgings too reported improved dispatches. Sales for instance in the third quarter increased by 22.7% yoy (though operating margins slid from 16.9% in Q3 last fiscal to 15.2% this time, thus stoking just 10% growth in operating profit) and PBT jumped by 18.1%. Yet pandemic induced stress took no small toll on its business this fiscal for post tax earnings for 9MFY21 are down by 58.5% and sales have tumbled by 22.8%









Financials

Quarterly Results

Figures in Rs crs

	Q3FY21	Q3FY20	% chg.	9MFY21	9MFY20	% chg.
Income from operations	**698.65**	**694.09**	**0.7**	**2021.32**	**2123.94**	**-4.8**
Other Income	49.43	45.98	7.5	148.95	112.70	32.2
Total Income	**748.08**	**740.07**	**1.1**	**2170.28**	**2236.64**	**-3.0**
Total Expenditure	522.71	521.23	0.3	1535.31	1628.41	-5.7
EBIDTA (other income incl.)	**225.38**	**218.84**	**3.0**	**634.97**	**608.23**	**4.4**
Interest	0.95	1.27	-25.0	3.61	4.22	-14.6
Depreciation	23.04	25.19	-8.6	71.47	71.03	0.6
PBT	**201.39**	**192.38**	**4.7**	**559.89**	**532.98**	**5.1**
Tax	41.59	36.02	15.5	127.32	85.08	49.6
Net Profit	**159.79**	**156.36**	**2.2**	**432.57**	**447.90**	**-3.4**
MI	0.67	0.27	149.4	0.22	-0.83	-125.9
Profit after MI	**159.12**	**156.09**	**1.9**	**432.36**	**448.73**	**-3.6**
Extraordinary Item	**2.93**	**-**	-	-	-	-
Adjusted Net Profit	**156.20**	**156.09**	**0.1**	**432.36**	**448.73**	**-3.6**
EPS	16.56	16.55	0.1	45.84	47.58	-3.6

Consolidated Income Statement

Figures in Rs crs

	FY18	FY19	FY20	FY21e	FY22e
Income from operations	**2445.13**	**3069.50**	**2980.88**	**2838.92**	**3114.94**
Growth (%)	8.9	25.5	-2.9	-4.8	9.7
Other Income	121.81	120.92	141.91	192.35	194.39
Total Income	**2566.95**	**3190.42**	**3122.79**	**3031.27**	**3309.33**
Total Expenditure	1905.52	2406.05	2296.12	2155.05	2358.01
EBIDTA (other income incl.)	**661.43**	**784.37**	**826.67**	**876.23**	**951.32**
Interest	10.84	11.13	10.07	11.38	11.52
EBDT	**650.59**	**773.25**	**816.60**	**864.84**	**939.81**
Depreciation	65.58	78.85	97.88	98.72	112.76
PBT	**585.01**	**694.40**	**718.72**	**766.12**	**827.04**
Tax	141.39	182.96	128.40	176.21	190.22
Net Profit	**443.62**	**511.44**	**590.32**	**589.91**	**636.82**
MI	0.27	0.61	-0.04	0.27	0.20
Profit after MI	**443.35**	**510.83**	**590.36**	**589.65**	**636.62**
Extraordinary Item	0.20	-0.24	0.47	-	-
Adjusted Net Profit	**443.15**	**511.07**	**589.89**	**589.65**	**636.62**
EPS	46.98	54.18	62.54	62.52	67.50

Consolidated Balance Sheet

Figures in Rs crs

	FY18	FY19	FY20	FY21e	FY22e
SOURCES OF FUNDS					
Share Capital	18.86	18.86	18.86	18.86	18.86
Reserves	2990.44	3494.84	3682.42	4247.07	4755.51
Total Shareholders Funds	**3009.31**	**3513.71**	**3701.29**	**4265.93**	**4774.37**
Minority interest	8.91	9.30	9.25	9.52	9.72
Long term debt	0.20	15.00	10.57	5.75	5.75
Total Liabilities	**3018.42**	**3538.00**	**3721.11**	**4281.20**	**4789.84**
APPLICATION OF FUNDS					
Gross Block	909.39	1155.31	1,292.94	1,352.94	1652.94
Less: Accumulated Depreciation	238.44	310.66	403.29	502.01	614.77
Net Block	**671.11**	**844.65**	**889.66**	**850.94**	**1038.17**
Capital Work in Progress	96.75	59.81	32.35	195.00	50.00
Investments	1091.86	1144.58	1418.49	1500.86	1500.86
Current Assets, Loans & Advances					
Inventory	553.39	785.92	778.12	766.51	809.88
Sundry Debtors	600.20	706.38	648.19	624.56	685.29
Cash and Bank	264.99	216.32	154.82	492.52	872.31
Loans and Advances	187.51	204.45	145.41	133.02	139.23
Total CA & LA	**1606.10**	**1913.06**	**1726.54**	**2016.61**	**2506.72**
Current Liabilities	441.61	379.88	338.40	311.43	324.78
Provisions	16.48	18.68	24.25	21.08	23.14
Total Current Liabilities	**458.09**	**398.56**	**362.65**	**332.51**	**347.92**
Net Current Assets	1148.01	1514.51	1363.89	1684.09	2158.80
Net Deferred Tax	-73.47	-86.99	-66.70	-39.66	-29.66
Other Assets (Net Of Liabilities)	84.16	61.45	83.42	89.97	71.67
Total Assets	**3018.42**	**3538.00**	**3721.11**	**4281.20**	**4789.84**

Key Financial Ratios

	FY18	FY19	FY20	FY21e	FY22e
Growth Ratios (%)					
Revenue	8.9	25.5	-2.9	-4.8	9.7
EBIDTA	-11.0	18.7	5.3	6.1	8.6
Net Profit	-3.0	15.3	15.4	0.0	8.0
EPS	-3.0	15.3	15.4	0.0	8.0
Margins (%)					
Operating Profit Margin	22.1	21.6	23.0	24.1	24.3
Gross Profit Margin	26.6	25.2	27.4	30.5	30.2
Net Profit Margin	18.1	16.7	19.8	20.8	20.4
Return (%)					
ROCE	15.2	15.6	16.3	14.9	14.4
ROE	15.7	16.0	16.7	15.1	14.5
Valuations					
Market Cap / Sales	5.5	5.5	4.4	6.3	5.7
EV/EBIDTA	18.5	19.9	14.0	18.2	16.7
P/E	30.4	33.0	22.1	30.2	28.0
P/BV	4.5	5.0	3.5	4.3	3.8
Other Ratios					
Interest Coverage	54.9	63.4	72.3	68.3	72.8
Debt-Equity Ratio	0.0	0.0	0.0	0.0	0.0
Current Ratio[a]	5.9	6.1	8.7	7.9	8.5
Turnover Ratios					
Fixed Asset Turnover	3.8	4.2	3.5	3.3	3.4
Total Asset Turnover	0.9	1.0	0.8	0.7	0.7
Debtors Turnover	4.5	4.7	4.4	4.5	4.8
Inventory Turnover	3.5	3.6	2.9	2.8	3.0
Creditors Turnover	12.9	14.5	15.0	16.6	17.6
WC Ratios					
Debtor days	81.7	77.7	82.9	81.8	76.7
Inventory days	104.1	101.6	124.3	130.8	122.0
Creditor days	28.3	25.1	24.3	22.0	20.7
Cash conversion cycle	157.6	154.1	182.9	190.6	178.0

Cumulative Financial Data

Figures in Rs crs	FY14-16	FY17-19	FY20-22e
Income from operations	6362	7761	8935
Operating profit	1707	1842	2126
EBIT	1751	1972	2344
PBT	1726	1942	718
PAT	1235	1411	1816
Production (mt)	566157	752602	809319
Sale volumes (mt)		708375	805274
Mining volumes (mt)		435101	548596
Cement volumes (mt)		273274	256678
OPM (%)	26.8	23.7	23.8
NPM (%)	19.4	18.2	20.3
Interest coverage	68.6	64.9	71.1
ROE (%)	22.2	16.5	15.1
ROCE (%)	20.5	15.9	14.8
Fixed asset turnover	4.2	3.5	3.2
Debtors turnover	5.5	4.6	4.3
Inventory turnover	3.9	3.4	2.8
Creditors turnover	14.7	14.5	14.5
Debtors days	66.3	80.2	85.3
Inventory days	93.2	108.7	128.3
Creditor days	24.8	25.2	25.2
Cash conversion cycle	134.7	163.8	188.4

FY14-16 implies three years ending fiscal 16; *as on terminal year

No perceptible tepidness in AIA's mining business explains much of the rise in cumulative income from operations during FY20-22e when compared to that in the preceding three year period. By some measure, AIA's cumulative mining volumes are estimated to rise by 26% during FY20-22e period when compared to cumulative volumes in FY17-19 period, while volumes of other business (read: cement) is projected to decline by just over 6%. Barely great scope of migration from forged products to high chrome products in the cement business explains much of the torpidity in cement casting dispatches over the last few years.

Barely sturdy volumes growth coupled with no miniscule attempts to penetrate the global mining high chrome castings market for greater market share explains much of the sobriety in OPMs over the last few years – OPM during FY17-19 period slid to 23.7% compared to 26.8% in FY14-16 period and is not estimated to get perceptibly better in the projected period (see table). Yet aided by lower finance costs and reduced tax liability (read: corporate tax rate cut) cumulative post tax earnings is projected to rise by 28.7% during FY20-22e period, markedly higher than 14.3% reported in the preceding three year period. Higher stocking of finished goods at its newly set up warehouses has done nothing but debase its inventory turnover ratio - inventory days estimated to rise to some 128 days in FY20-22e period from 109 days (see table).

Financial Summary – US dollar denominated

million $	FY18	FY19	FY20	FY21e	FY22e
Equity capital	2.9	2.7	2.5	2.6	2.6
Equity shareholders' funds	459.6	490.7	488.3	568.8	637.5
Total debt	18.9	18.5	16.3	14.6	14.6
Net fixed assets (incl CWIP)	115.0	127.9	119.7	141.2	147.0
Investments	167.9	165.5	188.2	206.6	206.6
Net current assets	176.5	204.5	180.9	216.2	280.3
Total assets	461.0	494.2	491.0	570.9	639.6
Revenues	379.4	439.2	420.6	390.7	428.7
EBITDA	102.6	112.3	116.6	120.6	130.9
EBDT	100.9	110.7	115.1	119.0	129.4
PBT	90.7	99.4	101.3	105.4	113.8
PAT	68.8	73.1	83.2	81.2	87.6
EPS($)	0.73	0.78	0.88	0.86	0.93
Book value ($)	4.87	5.20	5.18	6.03	6.76

income statement figures translated at average rates; balance sheet and cash flow at year end rates; projections at current rate ($72.66/$)

Recommendation

Introducing cost effective solution to reducing downtime to cutting down wear has been the hallmarks of the HCMI industry. Magotteaux, a global manufacturer, has recently signed grinding media agreement with Titan Cement until the end of 2021 whereby the supplier would help reduce Titan's overall cost of production by increasing productivity, reducing maintenance cost and downtime, by using latest technologies for the abrasive and impact applications. Further, Magotteaux recently launched vertical roller mill (WRM) wear parts product line for the cement industry which would offer high resistance, consistent production, energy efficiency and lower maintenance and replacement frequency.

Redundancies in AIA's installed capacity of HCMI of some 3.9 lakh tons , though not without attended costs, not only helps in gaining market share in high chrome internals through rapid conversion but furthering its distinction as world's second largest hi-chrome casting producer. During periods of barely robust business growth AIA has not refrained from adding capacities in the past, though it has for the time being deferred expansion of second phase of grinding media of 50000 tons, thus alluding to little scope of robust business growth in near term.

Yet long gestation periods and arduous client acquisition process through custom design solutions does impart no puny entry barrier - a sort of economic moat. Its new mill lining facility for mining sector would take at least 4 years to reach optimum capacity utilization as its product designing processes are both longer and complex. Given wide fluctuations in metal prices in last few months partly due to supply disruptions, lag effect in passing off raw material price increases would dent margins over a couple of quarters.

The stock currently trades at 30.2x FY21e EPS of Rs 62.52 and 28x FY22e EPS of Rs 67.50. Much of its business growth over the next few years would be triggered by conversion from forged to high chrome in the mining sector, though this migration would hardly get gather any momentum next fiscal which would stymie overall volume growth to some 7%. AIA's free cash flows of some Rs 538 crs in FY20 discounts current valuation with terminal growth of some 7% which is scarcely evasive. Considering odds, we initiative coverage on the stock and assign buy rating with target of Rs 2295 based on 34x FY22e earnings (the target price is set at some 7.5% terminal growth rate to perpetuity).

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buy: >20%	accumulate: >10% to ≤20%	hold: ≥-10% to ≤10%	reduce: ≥-20% to <-10%	sell: <-20%

Exchange Rates Used- Indicative

Rs/$	FY17	FY18	FY19	FY20
Average	67.09	64.45	69.89	70.88
Year end	64.84	65.04	69.17	75.39

All $ values mentioned in the write-up translated at the average rate of the respective quarter/ year as applicable. Projections converted at current exchange rate. Cumulative dollar figure is the sum of respective yearly dollar value.