## **Bajaj Auto and Hero MotoCorp Sales Note**

# Two-Wheelers-Night is darkest before its dawn







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#### Two-Wheelers-Night is darkest before its dawn

Our Buy note on the Indian 2W (Bajaj Auto/Hero Motocorp). Further, on the 2 year horizon auto sector is underperforming the bench mark indices (Nifty) of 41% in 2 year and auto moved only by 31% auto in this duration.

Will that flexibility continue in 2022?

**Semiconductor shortage**: For a year and half, a lack of semiconductor has been afflict the auto industry, forcing plants to shut down, delaying auto shipments and sending 2W prices through the roof but that is not the only problem with the Auto industry.

Automaker are having issue getting all manners of parts and raw material for a different of reasons, including Covid-19 related plant shutdowns by suppliers, logistical problems involving shortage of semiconductor, shipping containers.

Chips shortage are one of multitude of extraordinary disruption the industry is facing including everything from resin and steel shortages to labor shortages.

Festive session: The auto industry has wrapped up another disappointing festive session and this time.

During the 42 days of festive of the current festive season in India, the vehicle retail across India recorded a decrease of nearly 18% from the same time last year.

Category	2020	2021	YoY(%)
2w	1938066	1579642	(18.5)

Chip shortage began in 2020 with many nations imposing a full lockdown in the wake of the Covid-19 outbreak, hitting production and supply. Industry experts believe the phenomenon could last till 2023. It has begun to affect India by late last year.

Big bets on all-electric fleets and batteries: EV fleets require heavy production of lithium-ion batteries. GM is building a battery plant in Ohio and spending billions overall to transition its fleet away from ICE technology. This shift comes with some challenges, as battery suppliers have traditionally been outside the automotive supply chain. Bajaj auto was the first 2Wmanufacturer in India to launch an EV. Bajaj auto launched the all new Bajaj chetak an Electric scooter in January 2020 and the Hero Motocorp is all set to venture into the EV space with the launch of its 1st electric vehicle by March 2022.

EV fleets require good amount of production of lithium-ion batteries. GM is building a battery plant in Ohio and spending billions overall to transition its fleet away from ICE technology. This shift comes with some challenges, as battery suppliers have traditionally been outside the automotive supply chain.

**Demand and supply constraints:** Volume in 2W was disappointed because of the muted demand and high base. 2W declined 30-32% YoY on due to weak demand, chips shortage impacting premium motorcycles.

Nevertheless, the inquiry levels in the domestic market are gradually improving and we expect the two-wheeler recovery from Q4FY22 onwards. Export 2W segment sales continued strong momentum. We expect OEMs with Higher export exposure to perform relatively better like Bajaj Auto and Hero MotoCorp.

Despite near term headwinds, we remain positive on the automobile sector and expect demand recovery going forward. We expect Bajaj auto and Hero MotoCorp to perform well, supported by reasonable valuations and good to mid teen growth prospects. Key thing to support the demand going forward- a)Increase in preference for personal mobility, b) Better cash flow management by households aided by low cost of vehicle financing, c) Macro support; d) Reduced lifespan of a vehicle leading to faster replacement, e) Growth of electric mobility aided by slew of new EV launches. f) Momentum in export markets.

**Exports to drive the growth; Outlook promising** 

**CMP: INR 3,176** 

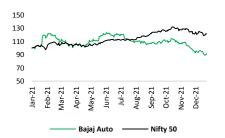
Rating: Buy

Target Price: INR 3,906

Stock Info	
BSE	532977
NSE	BAJAJ-AUTO
Bloomberg	BJAUT IN
Reuters	BAJA.BO
Sector	Auto-2&3 wheelers
Face Value (INR)	10
Equity Capital (INR mn)	2894
Mkt Cap (INR Mn)	1,087,311
52w H/L (INR)	4,361/2,823
Avg Yearly Vol (in 000')	580

Shareholding Patte (As on December, 2021)	ern %		
Promoters			53.7
FII			11.21
DII			12.85
Public			22.24
Stock Performance (%)	1m	3m	12m
Bajaj Auto	-5.57	-19.5	-6.69
Nifty	0.13	-4.5	24.0

#### **Bajaj Auto Vs Nifty**



We had a call with the management of Bajaj Auto, call majorly spoke about supply-side challenges, exports traction, Price increase, Bajaj Triumph and coming quarter update.

#### Management meet key takeaways

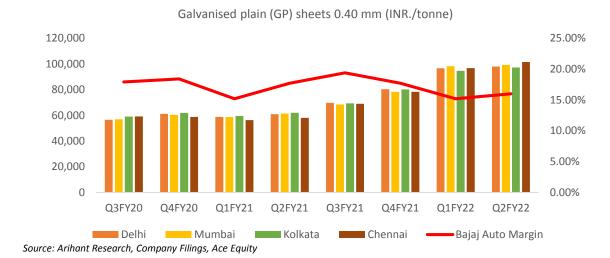
- Sales: An average rate of over 2lac per month was maintained and crossed 2lac sales during November & December respectively.
- Bajaj auto is seeing traction in exports and is expected to remain between 2.4-2.5 mn units (Their earlier guidance was 2.2 -2.3 million exports). They will be capturing higher market shares in foreign regions like the Philippines, Sri Lanka, etc. Despite the good traction on the exports front, they are currently experiencing some resistance and tailwinds.
- Risk: a) The company is seeing some decline on the domestic 2W front,
   b) People are scared about the 3rd wave effect. c) shortage of semiconductors and even around October. If this thing got improved, we will see the pickup in the motorcycle front.
- Price Increase: In 24-30 months, a whole massive price increase after 3 intervene by the government and a totally 35% price increase in that period.8%-10% in last 12 months. As per the raw material volatility, the company is expected to take another price hike in Q3FY22. As we know this is not fully pass-on of the raw material cost as raw price increase 2% and in front of that, the company took 0.5% to 1%. We sees pressure remain over Q4FY22.
- Inventory: The company has six weeks' inventory as against 8-9 weeks earlier.
- Chip shortages have affected the 2W portfolio. Bajaj auto expects the challenge to persist for three to four quarters.
- Bajaj-Triumph partnership: The company has shifted the timeline as earlier it was FY2023 but now it's CY2023. So, it's shifted by a few months.

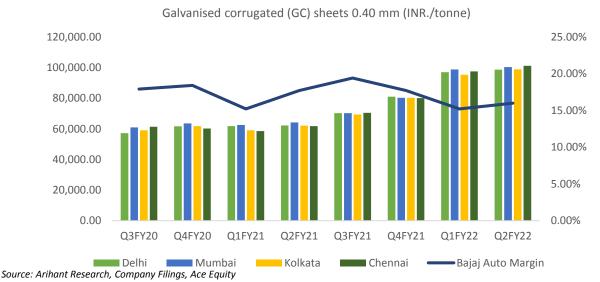
#### **Outlook and valuation**

We expect the company to gain further momentum and market share in exports, driven by its market leadership, brand equity, and enhanced distribution network. Higher raw material prices and scarcity of semiconductors are a matter of concern in the near term; the Company has failed to pass on complete cost inflation in this quarter which will impact margins. We believe margins will bottom out in Q3FY22E with pick up expected from Q4 onward backed by premiumization in 2Ws, increase in the share of exports, and RoDTEP scheme incentives. We value Bajaj Auto at P/E of 19x to its FY 24E EPS of INR 201.3 for a fair value of INR 3,826 and INR 80 for KTM stock valuation to arrive at a final target price of INR 3,906 using the SOTP method for Bajaj's stake in KTM. We have a Buy rating on the stock.

#### Management meet key takeaways

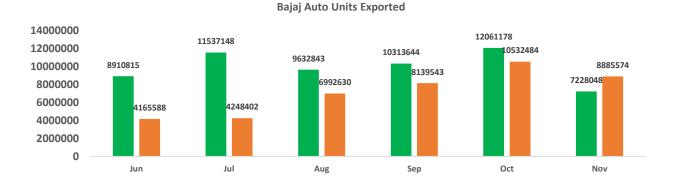
- Tuk-tuk 3W: Egyptian authorities banned the import of 3W Tuk-tuk components (auto-rickshaw), announcing a plan to replace these vehicles with minivans. The company sold ~5000 prior to the ban.
- CV Turnaround: The company's 40% sales come from the school and IT sector as this thing is closed so, the company has taken the price increase for that.
- Q3FY22E: The company is expecting margin will be under pressure as compared to Q2FY22 due to high cost. In Q2FY22 one-off is there from RoDTEP which has resulted in INR82 crores of earnings towards Q4 of last year and Q1 of this year. On exports, front 3W is supposed to make money followed by 2W domestic motorcycle.
- Sales: The company has reached almost to pre-Covid level. In 2W Almost 50% is financed.
- Product: The company premium segment is doing better but growth is impacted due to the chip shortage issue.
- EV: The company has launched chetak now in 8 cities and will expand to 30 cities but due to semiconductor issues is not able to do that.





• Steel Prices: As we know that the company did not fully pass-on the raw material cost as input price increased 2% and in front of that, the company took 0.5% to 1%. We believe pressure remains over Q4FY22. Going forward, If commodity price stabilize/decline it will lead to increased in EBITDA Margin.

Source: Arihant Research, Company Filings, Ace Equity



• Exports: Bajaj auto is seeing traction in exports and is expected to remain between 2.4-2.5 mn units (Their earlier guidance was 2.2 -2.3 million exports). We believe, Bajaj auto will be capturing higher market shares in foreign regions like the Philippines, Sri Lanka, etc.

■ CY2021 ■ CY2020

Quarterly result summary					
Standalone (INR mn)	Q2FY22	Q1FY22	Q2FY21	YoY (%)	QoQ (%)
Net sales	87,622	73,860	71,558.6	22.4	18.6
- Raw material	64565	53944	50581	27.6	19.7
(% of net sales)	73.7	73.0	70.7	300bps	105bps
- Staff expenditure	3516	3615	3246	8.3	(2.8)
(% of net sales)	4.0	4.9	4.5	-52bps	1bps
- Other expenditure	5530.4	5103.4	5069.4	9.1	8.4
(% of net sales)	6.3	6.9	7.1	-77bps	62bps
Total expenditure	73,611	62,663	58,896	25.0	17.5
EBITDA	14,011	11,198	12,662	10.7	25.1
EBITDA Margin (%)	16.0	15.2	17.7	-170bps	83bps
Depreciation	656	640.7	643.2	2.0	2.4
EBIT	13,355	10,557	12,019	11.1	26.5
Interest	17	22.9	26.5	(35.8)	(25.8)
Other Income	3183.2	3293	2858	11.4	(3.3)
PBT	16,521	13,827	14,851	11.3	19.5
Тах	3775.9	3215.4	3468.6	8.9	17.4
Adjusted PAT	12,746	10,612	11,382	12.0	20.1
Reported PAT	12746	10612	11382	12.0	20.1
Adjusted EPS (INR)	44.10	36.70	39.30	12.2	20.2
Total Volumes (Nos)	1,144,407	1,006,014	1,053,337	8.6	89.5
Net Realisation (INR)	76,565	73,419	67,935	12.7	7.8
EBITDA / Vehicle (INR)	12,243	11,131	12,021	1.8	10.0

Geographical mix	Q2FY22	Q1FY22	Q2FY21	YoY(%)	QoQ (%)
Revenues (INRm):					
Domestic	79,650	58,041	41,422	92.3	37.2
Exports	7,972	15,820	30,137	(73.5)	(49.6)
Total	87,622	73,860	71,559	22.4	18.6
Volumes (In nos):					
Domestic	1,017,499	754,174	573,586	77.4	34.9
Exports	126,908	251,840	479,751	(73.5)	(49.6)
Total	1,144,407	1,006,014	1,053,337	8.6	13.8
Realisations (INR):					
Domestic	78,280	76,959	72,216	8.4	1.7
Exports	62,817	62,817	62,817	(0.0)	0.0
Total	76,565	73,419	67,935	12.7	4.3

Profi	t & Loss S	tatemen	it	
Particulars (INR mn)	FY21	FY22E	FY23E	FY24E
Net sales	277,411	346,892	395,799	435,304
Growth, %	(7)	25	14	10
RM expenses	196,097	247,681	280,622	306,019
Employee expenses	12,860	14,789	17,007	18,708
Other expenses	19,170	26,017	30,872	33,954
EBITDA (Core)	49,285	58,406	67,298	76,624
Growth, %	(3)	19	15	14
Margin, %	17.8	16.8	17.0	17.6
Depreciation	2,593	2,050	2,068	2,085
EBIT	46,692	56,355	65,231	74,539
Growth, %	(4)	21	16	14
Margin, %	16.8	16.2	16.5	17.1
Other income	12,765	16,594	20,742	25,928
Interest paid	67	51	49	47
Non-recurring Items	0	0	0	C
Pre-tax profit	59,390	72,899	85,924	100,420
Tax provided	13,844	16,038	18,903	22,092
Profit after tax	45,546	56,861	67,021	78,327
Others (Minorities,				
Associates)	-	-	-	
Net Profit	45,546	56,861	67,021	78,327
Growth, %	(11)	25	18	17
Net Profit (adjusted)	45,546	56,861	67,021	78,327

	Balance	Sheet		
Particulars (INR				
mn)	FY21	FY22E	FY23E	FY24E
Cash & bank	5,274	22,643	55,460	96,009
Investments	226,310	224,046	219,565	215,174
Debtors	27,169	34,214	39,038	42,934
Inventory	14,939	19,008	21,688	23,852
Loans & advances	372	409	450	495
Other current assets	24,431	25,652	26,935	28,282
Total current assets	72,183	101,926	143,570	191,572
Gross fixed assets	55,875	58,913	59,413	59,914
Less: Depreciation	38,843	40,893	42,961	45,047
Add: Capital WIP	160	160	160	160
Net fixed assets	17,191	18,179	16,611	15,027
Total assets	258,841	275,190	301,699	336,620
Current liabilities	55,300	67,264	76,316	83,387
Provisions	1,544	1,698	1,732	1,766
Total current				
liabilities	56,843	68,962	78,048	85,153
Non-current				
liabilities	201,997	206,228	223,651	251,467
Total liabilities	6,818	6,818	6,818	6,818
Paid-up capital	2,894	2,894	2,894	2,894
Reserves & surplus	249,129	265,478	291,987	326,908
Shareholders' equity	252,023	268,372	294,881	329,802
Total equity &				
liabilities	258,841	275,190	301,699	336,620

	Cash Flo	ow		
Particulars (INR mn)	FY21	FY22E	FY23E	FY24E
Pre-tax profit	59,390	72,899	85,924	100,420
Depreciation	2,593	2,050	2,068	2,085
Chg in working capital	-8,726	-255	259	-347
Total tax paid	-13,481	-16,038	-18,903	-22,092
CFO	63,826	15,896	22,725	30,249
Capital expenditure	-1,806	-3,038	-500	-501
Chg in investments	-44,350	2,263	4,481	4,391
CFI	-33,392	30,976	24,028	24,940
Free cash flow	62,020	12,858	22,225	29,748
Debt raised/(repaid)	-4	o	0	(
Dividend (incl. tax)	-87	-40,512	-40,512	-43,406
CFF	-158	-40,562	-40,560	-43,453
Net chg in cash	30,277	6,310	6,193	11,737
Opening cash balance	3,083	5,274	22,643	55,460
Closing cash balance	5,274	22,643	55,460	96,009

	Rati	os		
Particulars	FY21	FY22E	FY23E	FY24E
EPS (INR)	157.4	146.2	172.3	201.3
PER (x)	20.2	21.7	18.4	15.8
Price/Book (x)	3.6	4.6	4.2	3.7
EV/EBITDA (x)	7.2	19.8	16.1	12.9
EV/Net sales (x)	2.2	2.8	2.4	2.1
RoE (%)	36.6	12.7	14.3	15.9
RoCE (%)	47	26	28	29
Fixed Asset turnover (x)	5.0	5.9	6.7	7.3
Dividend Yield (%)	4.4	3.3	3.3	3.5
Receivable (days)	32	37	37	37
Inventory (days)	24	22	22	22
Payable (days)	73	66	67	67
Net D/E ratio (x)	(0.8)	(0.8)	(0.8)	(0.9)



Sales Note
29 December 2021

## Hero MotoCorp Ltd.

Structural Growth Drivers Remain Intact; New launches of EV will lead from here on

**CMP: INR 2,418** 

Rating: Buy

Target Price: INR 2,987

Stock Info	
BSE	500182
NSE	HEROMOTCO
Bloomberg	HMCL IN
Reuters	HROM.BO
Sector	Auto-2&3 wheelers
Face Value (INR)	2
Equity Capital (INR mn)	400
Mkt Cap (INR mn)	491,420
52w H/L (INR)	3,629/2,310
Avg Yearly Vol (in 000')	816

Shareholding Patte (As on December, 2021)	rn %		
Promoters			34.76
FII			45.23
DII			9.02
Public			10.99
Stock Performance (%)	1m	3m	12m
Hero MotoCorp	-10.6	-16.1	-21.0
Nifty	-4.47	-2.78	24.4

### Hero MotoCorp Vs Nifty



We had a call with the management of Hero MotoCorp, call majorly spoke about supply-side challenges, EV development, Premiumisation and LEAP-2 impact on the Margin.

#### **Management meet key takeaways**

- Demand: Demand is subdued because of the rural economy being impacted due to second Covid wave. Festive demand was 80-89% compared to last year. The company expects demand to come back by H2FY22. There are many marriages in February compared to last year. Going forward, the company will see some green shoots.
- **EV launch:** Hero MotoCorp gears up to launch its EV by march' 22 to be manufactured at its plant in Chittoor, India The product is designed in Jaipur, tech in Germany The plant aptly called Garden Factory for its ecofriendly and sustainable manufacturing practices will provide an integrated ecosystem for Battery Pack Manufacturing and Testing, Vehicle Assembly, and Vehicle End of Line Testing (EOL).
- Capex for EV: The company has spent INR 1000 cr during last year and this year it will be ended by the spending of INR 600 cr as it's a slow year. The maximum part is to spend is the R&D, EV, and premium. So the rest of others always can be deferred. The CAPEX is INR 1000 Cr overall. maintains CAPEX is ~300 cr and rest in the term of Privatization is everything.
- LEAP-II savings program: The company was having a 50bps target in the
  past 2 years and after the good result it got doubled and as of now
  200bps from the saving program. Also, the company is doing cost
  optimization and passing on the commodity prices, which is helping to
  sustain margin.
- Inventory: The company has 4-6 weeks' inventory as against 8-10 weeks earlier
- Price increase: The company took the price increase up to the INR 2000 and on an average INR 400.As of now the company has passed on the raw material cost and no plan to do it in next quarter.

#### **Outlook and valuation**

The company under the LEAP-2 program has been aggressive in cost-saving, operating leverage benefits, and price hikes which would result in margin improvement. Secondly, Hero will benefit from its premium bikes, strong support in the economy, executive motorcycle segments, aggressive product offerings in the premium bikes and scooters segments. The EV segment is likely to do well for growth in the medium term. We have a positive outlook on the company backed by above the reason and considering its reasonable valuation. We value Hero MotoCorp at PE of 14x to its FY24E EPS estimate of INR 213.4, which yields a target price of INR 2,987. We assign a Buy rating on the stock.

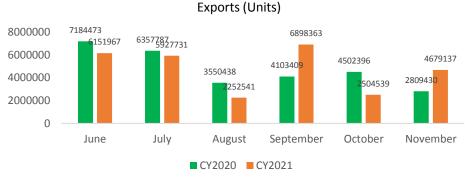
#### Management meet key takeaways

- •EV Scooter: This is the only high speed scooter with ~40 km. It is going to be mass market product and more of premium product with own battery (by end of the financial year). Also the company has plan to come out with swappable battery which is going to come ~FY23.
- •Semiconductor: The chip shortage is there but lesser as compare to 4W. If it is not there, then the company will be come out with more bike in Extech and pulsar. Overall basis, the company is managing it well.
- •EV aspirant: The company's motorcycle from 70% of the total 2W market and scooter is in the range of 25-30%. EV penetration to reach 30% in the next 5 years.
- •Exports: The company has a presence in more than 40+ countries. In terms of the market share trajectory, the key markets the company is focusing on, around 7 to 8 markets where they have positive market share movement. Recently, the company has launched Hunter over there. They have sent in the modified customized product- the taxi segment with an elongated seat. The annual run rate can go to 200k-300k and more going forward.
- Parts Business (12-13%): INR 1140 cr parts business. The company has increased the authorized service center and also the bill size number. The volume also increased significantly from the distributor side. Earlier revenue from the parts was 6-7% and it increased to 12-13%. Going forward, the target is at least 15% or more.
- •Exports Margin: On the exports side, it is good to see they are getting traction in that business and adding to the margin positively. The company's target for margin is to make it 15% top-line. On average, the company is margin accretive.
- Demand (urban & rural): The company is seeing urban demand remains at the same level and the rural is awaited.
- •The company is limiting the expand stake in the Ather. Ather product will be more on the premium side in comparison to that Hero is more of a mass product.
- •Premiumisation: After-sales service becomes a larger part as it can become larger.5-7% premium to original Glamour Bike and overall 40-50% sales of glamour bike. Scooters on the Pleasure Plus moved on to platinum version single colour scooter, differentiated seat colour and LED light, etc. Another platinum product Pleasure plus six and Maestro has the market of 45% and similarly, HF Dawn 100cc but all can position differently as per the Premiumisation.
- Retail financing: Total financing was 25% in Q2FY22 and Hero Fincorp total was at 45%. There is one private equity in fincorp and they are looking to exit in near-term but the company will update accordingly on that.

#### **Investment rationale**

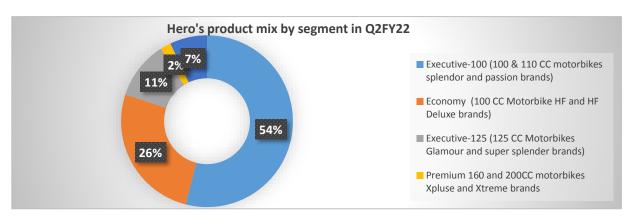


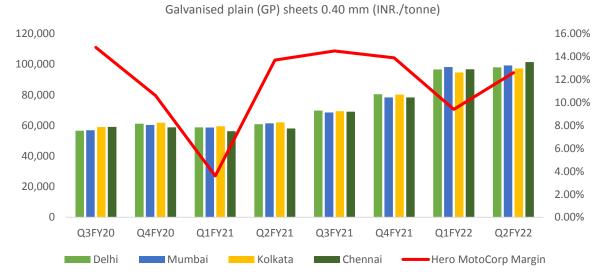
Margin: Commodity Prices, which have been impacting the industry margins so far, are showing some signs of
softening as the company move from here. Through an accelerated Leap-II savings program, overheads
management, and judicious price increases, the company has been able to improve margins sequentially and
expect further recovery moving forward.



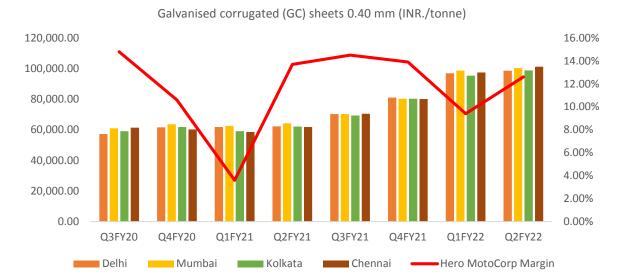
Source: Arihant Research, EXIM Maps

- Exports: The management is strategically looking to build on its small export base to reduce its overdependence on domestic markets. The company expecting Mexico to do very well as Bangladesh started recovery, Nigeria modified & customized product, Colombia giving good response on the X plus in the premium segment and soon on the break-even on the EBITDA level. Sri Lanka is there has been no sales due to the ban on import and expected to resolve in the next 6 months. From the 7-8 countries is the positive market share.
- Headwinds of Export: EBITDA margin lower than the domestic as launching in Nigeria and some of the other
  markets it is lower than that but moving forward as scale-up and the company, will add more premium product
  in the export market. Going forward the EBITDA margin will be higher than the domestic market. There is an
  opportunity for the gross margin as well.





Source: Arihant Research, CMIE Economic outlook



Source: Arihant Research, CMIE Economic outlook

• Steel Prices: Commodity Prices, which have been impacting the industry margins so far, are showing some signs of softening from October FY21 onwards which, is positive for the auto sector. Prices pass-on already done from the company side for the Q3FY22.



- Price hike: The company has raised by INR 1200 in July FY21 and INR 1000 in September FY21.
- **Inventory:** We noted inventory corrections for Hero MotoCorp to 4-6 weeks against 10 weeks before festive session.

### Ather 450X vs Ola Electric S1

Brand   Ahre Fenery   Oil Bectric   Set Showmom Price   IR. 1.30 Labs/lew On Road Price   IR. 1.30 Labs/le	Designation for the second sec	AAL - II AFOV	Ole Fleetwick Due
Incompany   Inco	Basic Info	Ather 450X	Ola ElectricS1 Pro
Sating   3.9		<u>.</u>	
Use Type	Ex-Showroom Price	INR. 1.32 LakhView On Road Price	INR. 1.10 LakhView On Road Price
Part   Page   Electric   Electr	Rating	3.9	4.2
Part   Page   Electric   Electr		(77 Ratings)	(193 Ratings)
SOUTH   SOUT	Fuel Type	. •	. • .
Brakes Front   Disc	1 ''		
Brakes Rear	1		
Fraking Type			
Winest   Size   Front - 300.6 A mm, Rear - 304.8 mm   Allow	Brakes Rear	Disc	Disc
Alloy   Allo	Braking Type	Combine Braking System	Combine Braking System
Alloy   Allo	Wheel Size	Front :-406.4 mm.Rear :-406.4 mm	Front :-304.8 mm.Rear :-304.8 mm
Range     116 km/charge   281 km/charge   587 km/charge   588 km/charge   58			
Start mig   Self Start Only   Remote Start, Push Button Start   Digital		· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·
Speedometer   Digital   Digital   Instrumence   INR. To ale Announced450X insurance   Rs. 3,13951 insurance   Engine	I =	. •	· •
INSERT OF 64 ANNOUNCE OF 1870   1.5 Mary Community Com			
Segret   Section   Section   Section   Set   Management   Section   Sectio	Speedometer		
Max Torque         26 Nm         \$8 Nm           Continuous Power         3300 W         -           From Ytype         Hub Motor IP Barles         Belt Drive           Fuel Type         Hub Motor Brakes         Belt Drive           Fuel Type         Electric         Disc           Robes Front         Disc         Disc           Brokes Rear         Disc         Disc           Forking Type         Combine Braking System           Forking Type         Combine Braking System           Forking Type         Combine Braking System           Forking Type         Combine Braking Good Braking System           Forking Type         Profformatice           Forking Good Oright         2.2 1.4 mm           Forking Good Oright         3.3           Top Speed         80 kmph           Top Speed         15kmph           Front Standing Good Oright         115kmph           Front Standing Good Oright         115kmph           Front Standing Good Oright         115kmph           Braking Good Oright         12.1 mm           Stopperson Front         Telescopic         Single Fork           Chassis         Aluminum Calley         Aluminum Calley           Vise Size	Insurance	INR. To Be Announced450X Insurance	Rs. 3,139S1 Insurance
Continuous Power   330 W		Engine	
Motor   P Raing   P 65	Max Torque	26 Nm	58 Nm
Motor   P Raing   P 65	Continuous Power	3300 W	-
Park			_
Brakes   Front   Disc			Polt Drivo
Fuel Type	опус туре		Beit Drive
Brakes Front	- 1-		51
Brakes Rear         Disc           Braking Type         Combine Braking System         Combine Braking System           Braking (60-0 kmph)         2.2.14 mm         -           Braking (80-0 kmph)         4.3.50 mm         -           Caccieration (1-04 Kmph)         3.3 s         3s           Top Speed         80 kmph         115 kmph           Staking 60-0 km/h         2.2.14 mm         -           Suspension         -         -           Suspension Front         Telescopic         Single Fork           Chassis         Aluminum Cast         Tubular           Vers         Mono Shock         Mono Shock           Wheel Size         Front: -90/90-12, Rear -80/90-12         Front: -110/70-12           Vers         Tubular         Tront: -106-4 mm         Front: -110/70-12           Wheel Size         Front: -90/42, Rear -90/90-12         Front: -110/70-12         Rear -110/70-12           Wheel Size         Front: -90/42, Rear -90/90-12         Front: -110/70-12         Rear -110/70-12           Wheel Size         Front: -90/42, Rear -90/90-12         Front: -110/70-12         Rear -110/70-12           Wheel Size         Front: -90/42, Rear -90/90-12         Rear -110/70-12         Rear -110/70-12           Wheel Size <td>1</td> <td></td> <td></td>	1		
Braking Type  Combine Braking System  Performance  Parking (60 G0 kmph)  2.2.14 mm  - Sanking (80 G0 kmph)  3.3.5 mm  - Caceleration (0.40 Kmph)  3.3.5 mm  - Caceleration (0.40 Kmph)  3.3.5 mm  - Suspension-Front  Telescopic  Suspension-Front  Telescopic  Suspension-Rear  Mono Shock  Mono Shock  Mono Shock  Type  Tubeless  Tubular  Wheel Size  Front :90/90-12, Rear : ≥0/90-12  Front :91/70-12  Tubeless  Tubuless	Brakes Front	Disc	Disc
Serving (50-0 kmph)   22.14 mm   -	Brakes Rear	Disc	Disc
Serving (50-0 kmph)   22.14 mm   -	Braking Type	Combine Braking System	Combine Braking System
Staking (80-0 kmph)			
Staking (80-0 kmph)	Braking (60-0 kmph)		
Acceleration (0-40 Kmph)         3.3s         3s           Top Speed         80 kmph         115 kmph           Braking 60 Ukm/h         2.2 14 mm         115 kmph           Singension-Front         Telescopic         Single Fork           Chassis         Aluminum Cast         Tubular           Mono Shock         Mono Shock           Tyre Size         Front : 90/90-12, Rear : 90/90-12         Front : 100/70-12, Rear : 90/48 mm           Wheel Size         Front : +96.4 mm, Rear : 406.4 mm         Front : 504.8 mm           Wheel Size         Front : 406.4 mm, Rear : 406.4 mm         Front : 504.8 mm           Wheel Size         Front : 406.4 mm, Rear : 406.4 mm         Front : 504.8 mm           Wheel Size         Front : 406.4 mm, Rear : 406.4 mm         Front : 504.8 mm           Wheel Size         Front : 406.4 mm, Rear : 406.4 mm         Front : 504.8 mm           Wheel Size         Front : 406.4 mm, Rear : 406.4 mm         Front : 504.8 mm           Wheel Size         Front : 90.8 mm         Aluminum Alloy           Wheel Size         Front : 90.8 mm         Aluminum Alloy           Wheel Size         Front : 90.8 mm         1859.7 mm           Ground Clearne         -         1859.0 mm           William         0         712 mm<			
Top Speed   80 kmph   22.14 mm   115 kmph   3 making 60-00 km/h   22.14 mm   - 5 making 60-00 km/h   20.14 mm   - 5 maki			
Staking 60-0 km/h			
Suspension   Telescopic   Single Fork   Tubular   Tubu	1 ' '		115 kmph
Telescopic   Treescopic   Single Fork   Chassis   Aluminium Cast   Tubular   Tubular   Tubular   Mono Shock   Tubular   Mono Shock	Braking 60-0 km/h	22.14 mm	-
Chassis   Munnium Cast   Tubular	Suspension		
Chassis   Munnium Cast   Tubular	Suspension-Front	Telescopic	Single Fork
Suspension-Rear         Mono Shock         Mono Shock           Tyre Size         Front :-90/90-12, Rear :-90/90-12         Front :-110/70-12, Rear :-110/70-12           Wheel Size         Front :-406.4 mm, Rear :-406.4 mm         Front :-100.8 mm, Rear :-304.8 mm           Tyre Type         Tubeless         Aluminium Alloy           Wheel Stype (Pressed Steel/ Alloy)         Alloy         Aluminium Alloy           Length Width*Height         -         1859*122*1160 mm*           Wheelbase         -         1359 mm           Length         -         165 mm           Wheelbase         -         165 mm           Length         -         165 mm           Width         0         125 kg           Ground Clearance         -         165 mm           Ground Clearance         -         165 mm           Width         0         125 kg           Tarial Light         LED         LED           Front :-102 keyeight         108 kg         125 kg           Tarial Light         LED         LED           Word Falle Diameter         200 mm         220 mm           Rear Brake Diameter         190 mm         81 km/charge           Battery Type         PMx5m         Midd dr		·	
Tyre   Size			
Tyre Size         Front : 30/90-12, Rear : -90/90-12         Front : -110/70-12, Rear : -110/70-12           Wheel Size         Front : -406.4 mm, Rear : -406.4 mm         Front : -304.8 mm, Rear : -304.8 mm         Tubeless           Wheels Stype (Pressed Steel/ Alloy)         Alloy         Aluminium Alloy           Dimensions           Length "Width" Height         -         1859*71.2*1160 mm²           Wheelbase         -         1359 mm           Ground Clearance         -         1859 mm           Ground Clearance         -         155 mm           Width         0         712 mm           Kerb Weight         108 Kg         125 Kg           Taril light         LED         LED           Front Brake Diameter         200 mm         220 mm           Rear Brake Diameter         190 mm         180 mm           Electricals           Sattery Type         PMSM         Mid drive IPM           Motor Power         6000 W         8500 W           Range         6000 W         8500 W           Range (Exo Mode)         85 km/charge         -           Fast Charging Time (-         75 km in 18 min           Range (Exo Mode)         35 km/charge         - <t< td=""><td>Suspension-Real</td><td></td><td>MONO SHOCK</td></t<>	Suspension-Real		MONO SHOCK
Wheel Size Type (Pressed Steel/ Alloy)         Front :-406.4 mm, Rear :-406.4 mm         Front :-304.8 mm, Rear :-304.8 mm         Tubeless Tubeless         Tubeless Tubeless         Tubeless Tubeless (Alloy)         Alloy         Allo	Tura Cira	·	Frank : 410/70 12
Tyre Type         Tubeless         Tubeless           Wheels Type (Pressed Steel/ Alloy)         Alloy         Adminium Alloy           Dimensions           Length Width* Height         -         1859*712*1160 mm³           Wheelbase         -         1359 mm           Length         -         1859 mm           Ground Clearance         -         1859 mm           Kerb Weight         108 Kg         125 Kg           Tatal lught         LED         LED           Kerb Weight         108 Kg         125 Kg           Tatal lught         LED         LED           Front Brake Diameter         200 mm         220 mm           Bearter Yope           Whithum-ion         180 mm           Electricals           Battery Type         MSM         Mid drive IPM           Motor Power         6000 W         8500 W           Range (Roman Mode)         6000 W         85 km/charge         181 km/charge           Fast Charging Time (-30%)         3 Hours 35 Minutes         -         -           Charging Time(0-30%)         3 Hours 45 Minutes         -         -           Charging Time(0-30%)         5 Hours 45 Minutes<	1 *		
Miles   Type (Pressed Steel / Alloy)	Wheel Size	Front :-406.4 mm,Rear :-406.4 mm	Front :-304.8 mm,Rear :-304.8 mm
Dimensions	Tyre Type	Tubeless	Tubeless
Length Width*Height         -         1859*712*1160 mm³           Wheelbase         -         1359 mm           Length         -         1859 mm           Ground Clearance         -         165 mm           Width         0         712 mm           Ker Weight         108 Kg         125 Kg           Tail Light         LED         LED           Front Brake Diameter         200 mm         220 mm           Rear Brake Diameter         190 mm         180 mm           Electricals           Battery Type         Lithium-ion         -           Motor Type         PMSM         Mid drive IPM           Motor Power         6000 W         8500 W           Range         16 km/charge         181 km/charge           Fast Charging Time         -         75 km in 18 min           Range (Eco Mode)         85 km/charge         -           Range (Eco Mode)         85 km/charge         -           Range (Normal Mode)         70 km/charge         -           Charging Time (0-80%)         3 Hours 35 Minutes         -           Charging Time (0-100%)         5 Hours 45 Minutes         -           LED         LED           LE	Wheels Type (Pressed Steel/ Alloy)	Alloy	Aluminium Alloy
Mile		Dimensions	
Mile	Length*Width*Height	-	1859*712*1160 mm <sup>3</sup>
Length         -         1859 mm           Ground Clearance         -         165 mm           Width         0         712 mm           Kerb Weight         108 Kg         125 Kg           Tail Light         LED         LED           Front Brake Diameter         200 mm         220 mm           Rear Brake Diameter         190 mm         180 mm           Electricals           Battery Type         Lithium-ion         —           Motor Type         PMSM         Mid drive IPM           Motor Power         6000 W         8500 W           Range         116 km/charge         181 km/charge           Fast Charging Time         -         75 km in 18 min           Range (Romal Mode)         70 km/charge         -           Charging Time(0-80%)         3 Hours 35 Minutes         -           Charging Time(0-80%)         3 Hours 35 Minutes         -           Charging Time(0-80%)         3 Hours 45 Minutes         -           Charging Time(0-80%)         5 Hours 45 Minutes         -           Charging Time(0-80%)         6 Hours 45 Minutes         -           Turn Signal Lamp         LED         LED           Body Type         Electric Bi		_	
Grund Clearance  -			
Width         0         712 mm           Kerb Weight         108 kg         125 kg           Tail Light         LED         LED           Front Brake Diameter         200 mm         220 mm           Rear Brake Diameter         190 mm         180 mm           Electricals           Electricals           Battery Type         Lithium-ion         -           Motor Type         PMSM         Mid drive IPM           Motor Power         6000 W         8500 W           Range         116 km/charge         181 km/charge           Fast Charging Time         75 km in 18 min           Range (Rormal Mode)         70 km/charge         -           Range (Rormal Mode)         70 km/charge         -           Charging Time(0-80%)         3 Hours 35 Minutes         -           Charging Time(0-100%)         5 Hours 45 Minutes         -           Charging Time(0-100%)         5 Hours 45 Minutes         -           Turn Signal Lamp         LED         LED           Features           Body Type         Electric Bikes         Electric Bikes           Starting         Self Start Only         Remote Start, Push Button Start		-	
Kerb Weight 108 Kg 125 Kg Tail Light LED LED Front Brake Diameter 200 mm 220 mm Rear Brake Diameter 190 mm 180 mm  ***Electricals**  Battery Type Lithium-ion - Motor Type PMSM Mid drive IPM Motor Power 6000 W 8500 W Range (Eco Mode) 85 km/charge 116 km/charge 75 km in 18 min Range (Eco Mode) 85 km/charge - Charging Time (0-100%) 3 Hours 35 Minutes - Charging Time(0-100%) 5 Hours 45 Minutes - Turn Signal Lamp LED  Body Type Electric Bikes Electric Bikes Electric Bikes Electric Bikes Starting Start Only Remote Start, Push Button Start Starting System Android Open, OS - Forecassor 13 GHz Snapdragon 18 GHz Cotcore Speedometer Digital Digital Digital Console Mobile Console Digital Digital - Mobile Connectivity Button Stirch Wisranty  **Warranty**		-	165 mm
Tail Light LED LED LED LED STARK PLANT PROVIDED TO THE PROVIDE			
Front Brake Diameter 200 mm 180 mm 180 mm  Fear Brake Diameter 190 mm 180 mm  Flectricals  Battery Type Lithium-ion			
Rear Brake Diameter 190 mm 180 mm    Electricals	Width Kerb Weight		
Rear Brake Diameter 190 mm 180 mm    Electricals		108 Kg	125 Kg
Battery Type Lithium-ion	Kerb Weight	108 Kg LED	125 Kg LED
Battery Type Lithium-ion Motor Type MSM Mid drive IPM Motor Power 6000 W 8500 W 8500 W Range 116 km/charge 181 km/charge 181 km/charge 181 km/charge Fast Charging Time - 75 km in 18 min Range (Eco Mode) 85 km/charge - 75 km in 18 min Range (Eco Mode) 85 km/charge	Kerb Weight Tail Light Front Brake Diameter	108 Kg LED 200 mm	125 Kg LED 220 mm
Motor Type Motor Power 6000 W 8500 W 8500 W Range 116 km/charge 181 km/charge 181 km/charge 75 km in 18 min Range (Eco Mode) 85 km/charge - 75 km in 18 min Range (Eco Mode) 85 km/charge - 75 km in 18 min Range (Eco Mode) 85 km/charge - 70 km/char	Kerb Weight Tail Light	108 Kg LED 200 mm 190 mm	125 Kg LED 220 mm
Motor Power 6000 W 8500 W Range 116 km/charge 181 km/charge 181 km/charge Fast Charging Time - 75 km in 18 min Range (Eco Mode) 85 km/charge - 75 km in 18 min Range (Eco Mode) 70 km/charge	Kerb Weight Tail Light Front Brake Diameter Rear Brake Diameter	108 Kg LED 200 mm 190 mm Electricals	125 Kg LED 220 mm
Range Fast Charging Time - 75 km in 18 min Range (Eco Mode) 85 km/charge - 75 km in 18 min Range (Eco Mode) 85 km/charge - Range (Normal Mode) 70 km/charge - Charging Time(0-80%) 3 Hours 35 Minutes - Charging Time(0-100%) 5 Hours 45 Minutes - LED	Kerb Weight Tail Light Front Brake Diameter Rear Brake Diameter Battery Type	108 Kg LED 200 mm 190 mm Electricals Lithium-ion	125 Kg LED 220 mm 180 mm
Fast Charging Time Range (Eco Mode) Range (Foo Mode) Range (Normal Mode) Remote Start (Range Mode) Remote Start (Range Mode) Remote Start, Push Button Start Start Only Remote Start, Push Button Start Sta	Kerb Weight Tail Light Front Brake Diameter Rear Brake Diameter Battery Type Motor Type	108 Kg LED 200 mm 190 mm  Electricals Lithium-ion PMSM	125 Kg LED 220 mm 180 mm - Mid drive IPM
Fast Charging Time Range (Eco Mode) Range (Foo Mode) Range (Normal Mode) Remote Start (Range Mode) Remote Start (Range Mode) Remote Start, Push Button Start Start Only Remote Start, Push Button Start Sta	Kerb Weight Tail Light Front Brake Diameter Rear Brake Diameter Battery Type Motor Type Motor Power	108 Kg LED 200 mm 190 mm  Electricals Lithium-ion PMSM	125 Kg LED 220 mm 180 mm - Mid drive IPM
Range (Eco Mode) 85 km/charge - Range (Normal Mode) 70 km/charge - Charging Time(0-80%) 3 Hours 35 Minutes - Charging Time(0-100%) 5 Hours 45 Minutes - Turn Signal Lamp LED LED LED  Seatures  Body Type Electric Bikes Electric Bikes Starting Self Start Only Remote Start,Push Button Start Seat Type Single Single Single Operating System Android Open, OS - Processor 1.3 GHz Snapdragon 1.8 GHz Octacore Speedometer Digital Digital Gradeability 20º 12° Underseat storage 22 L Console Digital Digital Mobile Connectivity Bluetooth Warranty	Kerb Weight Tail Light Front Brake Diameter Rear Brake Diameter Battery Type Motor Type	108 Kg LED 200 mm 190 mm  Electricals Lithium-ion PMSM 6000 W	125 Kg LED 220 mm 180 mm - Mid drive IPM 8500 W
Range (Normal Mode) 70 km/charge - Charging Time(0-80%) 3 Hours 35 Minutes - Charging Time(0-100%) 5 Hours 45 Minutes - Turn Signal Lamp LED LED  Body Type Electric Bikes Electric Bikes Starting Self Start Only Remote Start, Push Button Start Seat Type Single Single Single Operating System Android Open, OS - Processor 1.3 GHz Snapdragon 1.8 GHz Octacore Speedometer Digital Digital Gradeability 20º 12° Underseat storage 22 L Console Digital Digital Odometer Digital Digital Mobile Connectivity Bluetooth Warranty	Kerb Weight Tail Light Front Brake Diameter Rear Brake Diameter  Battery Type Motor Type Motor Power Range	108 Kg LED 200 mm 190 mm  Electricals Lithium-ion PMSM 6000 W	125 Kg LED 220 mm 180 mm  - Mid drive IPM 8500 W 181 km/charge
Charging Time(0-80%) 3 Hours 35 Minutes - Charging Time(0-100%) 5 Hours 45 Minutes - Turn Signal Lamp LED LED  Features  Body Type Electric Bikes Electric Bikes Starting Self Start Only Remote Start, Push Button Start Seat Type Single Single Operating System Android Open, OS - Processor 1.3 GHz Snapdragon 1.8 GHz Octacore Speedometer Digital Digital Gradeability 20º 12° Underseat storage 22 L 36 L Console Digital Digital Odometer Digital Digital Mobile Connectivity Bluetooth Bluetooth, WiFi	Kerb Weight Tail Light Front Brake Diameter Rear Brake Diameter  Battery Type Motor Type Motor Power Range Fast Charging Time	108 Kg LED 200 mm 190 mm  Electricals  Lithium-ion PMSM 6000 W 116 km/charge	125 Kg LED 220 mm 180 mm  - Mid drive IPM 8500 W 181 km/charge
Charging Time(0-100%)  Turn Signal Lamp  EED  Features  Body Type  Electric Bikes  Starting  Self Start Only  Single  Operating System  Android Open, OS  Processor  1.3 GHz Snapdragon  1.8 GHz Octacore  Speedometer  Gradeability  Underseat storage  Digital  Console  Digital  Digital  Digital  Digital  Digital  Odometer  Mobile Connectivity  Bluetooth  Warranty	Kerb Weight Tail Light Front Brake Diameter Rear Brake Diameter  Battery Type Motor Type Motor Power Range Fast Charging Time Range (Eco Mode)	108 Kg LED 200 mm 190 mm  Electricals  Lithium-ion PMSM 6000 W 116 km/charge - 85 km/charge	125 Kg LED 220 mm 180 mm  - Mid drive IPM 8500 W 181 km/charge
Turn Signal Lamp  Features  Body Type  Electric Bikes  Starting  Self Start Only  Single  Operating System  Android Open, OS  Processor  1.3 GHz Snapdragon  1.8 GHz Octacore  Speedometer  Gradeability  Underseat storage  Digital  Console  Digital  Digital  Digital  Digital  Digital  Odometer  Mobile Connectivity  Bluetooth  Warranty	Kerb Weight Tail Light Front Brake Diameter Rear Brake Diameter  Battery Type Motor Type Motor Power Range Fast Charging Time Range (Eco Mode) Range (Normal Mode)	108 Kg LED 200 mm 190 mm Electricals Lithium-ion PMSM 6000 W 116 km/charge - 85 km/charge 70 km/charge	125 Kg LED 220 mm 180 mm  - Mid drive IPM 8500 W 181 km/charge
Body Type Selectric Bikes Selectric Bikes Starting Self Start Only Remote Start,Push Button Start Seat Type Single Single Single Single Operating System Android Open, OS - Processor 1.3 GHz Snapdragon 1.8 GHz Octacore Speedometer Digital Digital Digital Gradeability 20º 12° 12° Underseat storage 22 L 36 L Console Digital Digital Odometer Digital Digital Sluetooth, WiFi Bluetooth, WiFi	Kerb Weight Tail Light Front Brake Diameter Rear Brake Diameter  Battery Type Motor Type Motor Power Range Fast Charging Time Range (Eco Mode) Range (Normal Mode) Charging Time(0-80%)	108 kg LED 200 mm 190 mm  Electricals  Lithium-ion PMSM 6000 W 116 km/charge - 85 km/charge 70 km/charge 3 Hours 35 Minutes	125 Kg LED 220 mm 180 mm  - Mid drive IPM 8500 W 181 km/charge
Body Type Electric Bikes Electric Bikes Starting Self Start Only Remote Start,Push Button Start Seat Type Single Single Operating System Android Open, OS - Processor 1.3 GHz Snapdragon 1.8 GHz Octacore Speedometer Digital Digital Gradeability 20º 12° Underseat storage 22 L Console Digital Digital Odometer Digital Digital Mobile Connectivity Bluetooth Bluetooth,WiFi	Kerb Weight Tail Light Front Brake Diameter Rear Brake Diameter  Battery Type Motor Type Motor Power Range Fast Charging Time Range (Eco Mode) Range (Normal Mode) Charging Time(0-80%) Charging Time(0-100%)	108 kg LED 200 mm 190 mm  Electricals  Lithium-ion PMSM 6000 W 116 km/charge 85 km/charge 70 km/charge 3 Hours 35 Minutes 5 Hours 45 Minutes	125 Kg LED 220 mm 180 mm  - Mid drive IPM 8500 W 181 km/charge 75 km in 18 min
Starting Self Start Only Remote Start,Push Button Start Seat Type Single Single Operating System Android Open, OS - Processor 1.3 GHz Snapdragon 1.8 GHz Octacore Speedometer Digital Digital Gradeability 20º 12° Underseat storage 22 L 36 L Console Digital Digital Odometer Digital Digital Odometer Bluetooth Bluetooth,WiFi	Kerb Weight Tail Light Front Brake Diameter Rear Brake Diameter  Battery Type Motor Type Motor Power Range Fast Charging Time Range (Eco Mode) Range (Normal Mode) Charging Time(0-80%)	108 Kg LED 200 mm 190 mm  Electricals  Lithium-ion PMSM 6000 W 116 km/charge - 85 km/charge 70 km/charge 3 Hours 35 Minutes 5 Hours 45 Minutes LED	125 Kg LED 220 mm 180 mm  - Mid drive IPM 8500 W 181 km/charge 75 km in 18 min
Starting Self Start Only Remote Start,Push Button Start Seat Type Single Single Operating System Android Open, OS - Processor 1.3 GHz Snapdragon 1.8 GHz Octacore Speedometer Digital Digital Gradeability 20º 12° Underseat storage 22 L 36 L Console Digital Digital Odometer Digital Digital Odometer Bluetooth Bluetooth,WiFi	Kerb Weight Tail Light Front Brake Diameter Rear Brake Diameter  Battery Type Motor Type Motor Power Range Fast Charging Time Range (Eco Mode) Range (Normal Mode) Charging Time(0-80%) Charging Time(0-100%) Turn Signal Lamp	108 Kg LED 200 mm 190 mm  Electricals  Lithium-ion PMSM 6000 W 116 km/charge - 85 km/charge 70 km/charge 3 Hours 35 Minutes 5 Hours 45 Minutes LED  Features	125 Kg LED 220 mm 180 mm  - Mid drive IPM 8500 W 181 km/charge 75 km in 18 min LED
Seat Type Single Single Single Single Operating System Android Open, OS - Processor 1.3 GHz Snapdragon 1.8 GHz Octacore Speedometer Digital Digital Gradeability 20º 12º 12º Underseat storage 22 L 36 L Console Digital Digital Odometer Digital Bluetooth Bluetooth,WiFi	Kerb Weight Tail Light Front Brake Diameter Rear Brake Diameter  Battery Type Motor Type Motor Power Range Fast Charging Time Range (Eco Mode) Range (Normal Mode) Charging Time(0-80%) Charging Time(0-100%)	108 Kg LED 200 mm 190 mm  Electricals  Lithium-ion PMSM 6000 W 116 km/charge - 85 km/charge 70 km/charge 3 Hours 35 Minutes 5 Hours 45 Minutes LED  Features	125 Kg LED 220 mm 180 mm  - Mid drive IPM 8500 W 181 km/charge 75 km in 18 min LED
Operating System Android Open, OS - Processor 1.3 GHz Snapdragon 1.8 GHz Octacore Speedometer Digital Digital Gradeability 20º 12º Underseat storage 22 L 36 L Console Digital Digital Odometer Digital Bluetooth Bluetooth,WiFi	Kerb Weight Tail Light Front Brake Diameter Rear Brake Diameter  Battery Type Motor Type Motor Power Range Fast Charging Time Range (Eco Mode) Range (Normal Mode) Charging Time(0-80%) Charging Time(0-100%) Turn Signal Lamp  Body Type	108 Kg LED 200 mm 190 mm  Electricals  Lithium-ion PMSM 6000 W 116 km/charge - 85 km/charge 70 km/charge 3 Hours 35 Minutes 5 Hours 45 Minutes LED  Features  Electric Bikes	125 Kg LED 220 mm 180 mm  - Mid drive IPM 8500 W 181 km/charge 75 km in 18 min LED  Electric Bikes
Processor 1.3 GHz Snapdragon 1.8 GHz Octacore  Speedometer Digital Digital Gradeability 20º 12° Underseat storage 22 L 36 L Console Digital Digital Odometer Digital - Mobile Connectivity Bluetooth Warranty	Kerb Weight Tail Light Front Brake Diameter Rear Brake Diameter  Battery Type Motor Type Motor Power Range Fast Charging Time Range (Eco Mode) Range (Normal Mode) Charging Time(0-80%) Charging Time(0-100%) Turn Signal Lamp  Body Type Starting	108 kg LED 200 mm 190 mm  Electricals  Lithium-ion PMSM 6000 W 116 km/charge - 85 km/charge 70 km/charge 3 Hours 35 Minutes 5 Hours 45 Minutes LED Features Electric Bikes Self Start Only	125 Kg LED 220 mm 180 mm  - Mid drive IPM 8500 W 181 km/charge 75 km in 18 min LED  Electric Bikes Remote Start,Push Button Start
Speedometer Digital Digital Digital Gradeability 20º 12° 12° 12° Underseat storage 22 L 36 L Digital Odometer Digital Digital Digital Digital Place Proposed Digital Digital Solution Solution Digital Proposed Digital Digital Digital Proposed Digital Proposed Digital Proposed Digital Digital Proposed Digital Digital Proposed Digital Proposed Digital Digital Proposed Digital Proposed Digital Digital Digital Digital Digital Proposed Digital Digit	Kerb Weight Tail Light Front Brake Diameter Rear Brake Diameter  Battery Type Motor Type Motor Power Range Fast Charging Time Range (Eco Mode) Range (Eco Mode) Charging Time(0-80%) Charging Time(0-100%) Turn Signal Lamp  Body Type Starting Seat Type	108 kg LED 200 mm 190 mm  Electricals  Lithium-ion PMSM 6000 W 116 km/charge - 85 km/charge 70 km/charge 3 Hours 35 Minutes 5 Hours 45 Minutes LED  Features  Electric Bikes Self Start Only Single	125 Kg LED 220 mm 180 mm  - Mid drive IPM 8500 W 181 km/charge 75 km in 18 min LED  Electric Bikes Remote Start,Push Button Start Single
Gradeability 20° 12° Underseat storage 22 L 36 L Console Digital Digital Odometer Digital - Mobile Connectivity Bluetooth Bluetooth,WiFi	Kerb Weight Tail Light Front Brake Diameter Rear Brake Diameter  Battery Type Motor Type Motor Power Range Fast Charging Time Range (Eco Mode) Range (Eco Mode) Charging Time(0-80%) Charging Time(0-100%) Turn Signal Lamp  Body Type Starting Seat Type Operating System	108 kg LED 200 mm 190 mm  Electricals  Lithium-ion PMSM 6000 W 116 km/charge	125 Kg LED 220 mm 180 mm  - Mid drive IPM 8500 W 181 km/charge 75 km in 18 min LED  Electric Bikes Remote Start,Push Button Start Single -
Underseat storage 22 L 36 L Console Digital Digital Odometer Digital - Mobile Connectivity Bluetooth Bluetooth,WiFi	Kerb Weight Tail Light Front Brake Diameter Rear Brake Diameter  Battery Type Motor Type Motor Power Range Fast Charging Time Range (Eco Mode) Range (Normal Mode) Charging Time(0-80%) Charging Time(0-100%) Turn Signal Lamp  Body Type Starting Seat Type Operating System Processor	108 Kg LED 200 mm 190 mm  Electricals  Lithium-ion PMSM 6000 W 116 km/charge	125 Kg LED 220 mm 180 mm  - Mid drive IPM 8500 W 181 km/charge 75 km in 18 min LED  Electric Bikes Remote Start,Push Button Start Single - 1.8 GHz Octacore
Underseat storage 22 L 36 L Console Digital Digital Odometer Digital - Mobile Connectivity Bluetooth Bluetooth,WiFi	Kerb Weight Tail Light Front Brake Diameter Rear Brake Diameter  Battery Type Motor Type Motor Power Range Fast Charging Time Range (Eco Mode) Range (Eco Mode) Charging Time(0-80%) Charging Time(0-100%) Turn Signal Lamp  Body Type Starting Seat Type Operating System	108 Kg LED 200 mm 190 mm  Electricals  Lithium-ion PMSM 6000 W 116 km/charge	125 Kg LED 220 mm 180 mm  - Mid drive IPM 8500 W 181 km/charge 75 km in 18 min LED  Electric Bikes Remote Start,Push Button Start Single - 1.8 GHz Octacore
Console Digital Digital Odometer Digital - Mobile Connectivity Bluetooth Bluetooth,WiFi Warranty	Kerb Weight Tail Light Front Brake Diameter Rear Brake Diameter  Battery Type Motor Type Motor Power Range Fast Charging Time Range (Eco Mode) Range (Normal Mode) Charging Time(0-80%) Charging Time(0-100%) Turn Signal Lamp  Body Type Starting Seat Type Operating System Processor	108 Kg LED 200 mm 190 mm  Electricals  Lithium-ion PMSM 6000 W 116 km/charge	125 Kg LED 220 mm 180 mm  - Mid drive IPM 8500 W 181 km/charge 75 km in 18 min LED  Electric Bikes Remote Start,Push Button Start Single - 1.8 GHz Octacore Digital
Odometer Digital - Mobile Connectivity Bluetooth Bluetooth,WiFi Warranty	Kerb Weight Tail Light Front Brake Diameter Rear Brake Diameter  Battery Type Motor Type Motor Power Range Fast Charging Time Range (Eco Mode) Range (Normal Mode) Charging Time(0-80%) Charging Time(0-100%) Turn Signal Lamp  Body Type Starting Seat Type Operating System Processor Speedometer Gradeability	108 kg LED 200 mm 190 mm  Electricals  Lithium-ion PMSM 6000 W 116 km/charge - 85 km/charge 70 km/charge 3 Hours 35 Minutes 5 Hours 45 Minutes LED  Features  Electric Bikes Self Start Only Single Android Open, OS 1.3 GHz Snapdragon Digital 209	125 Kg LED 220 mm 180 mm  - Mid drive IPM 8500 W 181 km/charge 75 km in 18 min LED  Electric Bikes Remote Start, Push Button Start Single - 1.8 GHz Octacore Digital 12°
Mobile Connectivity Bluetooth Bluetooth,WiFi  Warranty	Kerb Weight Tail Light Front Brake Diameter Rear Brake Diameter  Battery Type Motor Type Motor Power Range Fast Charging Time Range (Eco Mode) Range (Eco Mode) Range (Normal Mode) Charging Time(0-80%) Charging Time(0-100%) Turn Signal Lamp  Body Type Starting Seat Type Operating System Processor Speedometer Gradeability Underseat storage	108 kg LED 200 mm 190 mm  Electricals  Lithium-ion PMSM 6000 W 116 km/charge	125 Kg LED 220 mm 180 mm  - Mid drive IPM 8500 W 181 km/charge 75 km in 18 min LED  Electric Bikes Remote Start,Push Button Start Single - 1.8 GHz Octacore Digital 12° 36 L
Warranty	Kerb Weight Tail Light Front Brake Diameter Rear Brake Diameter  Battery Type Motor Type Motor Power Range Fast Charging Time Range (Eco Mode) Range (Eco Mode) Charging Time(0-80%) Charging Time(0-100%) Turn Signal Lamp  Body Type Starting Seat Type Operating System Processor Speedometer Gradeability Underseat storage Console	108 kg LED 200 mm 190 mm  Electricals  Lithium-ion PMSM 6000 W 116 km/charge - 85 km/charge 70 km/charge 3 Hours 35 Minutes 5 Hours 45 Minutes LED  Features  Electric Bikes Self Start Only Single Android Open, OS 1.3 GHz Snapdragon Digital 20° 22 L Digital	125 Kg LED 220 mm 180 mm  - Mid drive IPM 8500 W 181 km/charge 75 km in 18 min LED  Electric Bikes Remote Start,Push Button Start Single - 1.8 GHz Octacore Digital 12° 36 L
	Kerb Weight Tail Light Front Brake Diameter Rear Brake Diameter  Battery Type Motor Type Motor Power Range Fast Charging Time Range (Eco Mode) Range (Eco Mode) Charging Time(0-80%) Charging Time(0-100%) Turn Signal Lamp  Body Type Starting Seat Type Operating System Processor Speedometer Gradeability Underseat storage Console Odometer	108 kg LED 200 mm 190 mm  Electricals  Lithium-ion PMSM 6000 W 116 km/charge	125 Kg LED 220 mm 180 mm  - Mid drive IPM 8500 W 181 km/charge 75 km in 18 min LED  Electric Bikes Remote Start,Push Button Start Single - 1.8 GHz Octacore Digital 12° 36 L Digital -
Standard Warranty (Years) 3	Kerb Weight Tail Light Front Brake Diameter Rear Brake Diameter  Battery Type Motor Type Motor Power Range Fast Charging Time Range (Eco Mode) Range (Eco Mode) Charging Time(0-80%) Charging Time(0-100%) Turn Signal Lamp  Body Type Starting Seat Type Operating System Processor Speedometer Gradeability Underseat storage Console	108 Kg LED 200 mm 190 mm  Electricals  Lithium-ion PMSM 6000 W 116 km/charge	125 Kg LED 220 mm 180 mm  - Mid drive IPM 8500 W 181 km/charge 75 km in 18 min LED  Electric Bikes Remote Start,Push Button Start Single - 1.8 GHz Octacore Digital 12° 36 L Digital -
	Kerb Weight Tail Light Front Brake Diameter Rear Brake Diameter  Battery Type Motor Type Motor Power Range Fast Charging Time Range (Eco Mode) Range (Normal Mode) Charging Time(0-80%) Charging Time(0-100%) Turn Signal Lamp  Body Type Starting Seat Type Operating System Processor Speedometer Gradeability Underseat storage Console Odometer Mobile Connectivity	108 kg LED 200 mm 190 mm  Electricals  Lithium-ion PMSM 6000 W 116 km/charge 85 km/charge 70 km/charge 3 Hours 35 Minutes LED  Features  Electric Bikes Self Start Only Single Android Open, OS 1.3 GHz Snapdragon Digital 20° 22 L Digital Digital Bluetooth  Warranty	125 Kg LED 220 mm 180 mm  - Mid drive IPM 8500 W 181 km/charge 75 km in 18 min LED  Electric Bikes Remote Start,Push Button Start Single - 1.8 GHz Octacore Digital 12° 36 L Digital -

#### Ola vs Ather

Ola has a Light On its feet and ride quality is pliant. Ola has an enormous boot. While Ather 450X, 1) Warp Mode Works Like Nothing as experienced before, 2) Quick to turn in, 3) Offers Enough Range For Regular Commutes.

#### Issue with Ola New launches:

Ola EV customers are encountering a issue with electric scooters that have been delivered to the customers. Ola Electric, had started the deliveries of its electric scooter on December 15, a significantly extended compare to its initial plans of an October deliveries because of main issue with the batteries as they were overheating, in a factory test environment.

Nevertheless, customers who have bought the scooters are facing serval issues from damaged vehicles like cracks and dents all over the body, hold up charger installation, and inconsistency in insurance policy among others. Also issue about providing a significant lower mileage compare to initially promised.

We believe, it will lead to positive expectations from Hero MotoCorp EV's launch before March 2022.

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Standalone (INR mn)	2QFY22	1QFY22	2QFY21	YoY (%)	QoQ (%)
Net sales	84,534	54,871	93,673	(9.8)	54.1
- Raw material	61,104	39,796	66,600	(8.3)	53.5
(% of net sales)	72.3	72.5	71.1	119bps	-24bps
Gross Profit	23430.4	15074.6	27073.9	(13.5)	55.4
(% of net sales)	27.7%	27.5%	28.9%	-1bps	0bps
- Staff expenditure	5,054	4,357	5,112	(1.1)	16.0
(% of net sales)	6.0	7.9	5.5	52bps	-196bps
- Other expenditure	7,712	5,570	9,097	(15.2)	38.5
(% of net sales)	9.1	10.2	9.7	-59bps	-103bps
Total expenditure	73,870	49,722	80,809	(8.6)	48.6
EBITDA	10,664	5,148	12,864	(17.1)	107.1
EBITDA Margin (%)	12.6	9.4	13.7	-112bps	323bps
Depreciation	1,639	1,630	1,732	(5.4)	0.5
ЕВІТ	9,025	3,519	11,133	(18.9)	156.5
Interest	65	61	46	40.9	7.4
Other Income	1,569	1,386	1,413	11.0	13.2
РВТ	10,529	4,844	12,500	(15.8)	117.4
Тах	2,585	1,189	2,965	(12.8)	117.4
Reported PAT	7,944	3,654	9,534	(16.7)	117.4
Adjusted PAT	7,944	3,654	9,534	(16.7)	117.4
Adjusted EPS (INR)	39.8	18.3	47.7	(16.7)	117.4
Total volumes (Nos)	14,38,623	10,24,489	18,20,278	(21.0)	40.4
Net realisation (INR)	58,760	53,559	51,461	14.2	9.7
EBITDA / vehicle (INR)	7,412	5,025	7,067	4.9	47.5

Profit & Loss Statement					
YE: Mar (INR mn)	FY21	FY22E	FY23E	FY24E	
Net sales	3,08,006	3,57,007	4,06,876	4,40,091	
Growth, %	7	16	14	8	
RM expenses	-2,17,623	-2,53,832	-2,88,882	-3,12,465	
Employee expenses	-18,987	-19,635	-20,751	-22,445	
Other expenses	-31,203	-37,695	-43,338	-46,807	
EBITDA	40,192	45,845	53,906	58,375	
Growth, %	2	14	18	8	
Margin, %	13.0	12.8	13.2	13.3	
Depreciation	-6,769	-6,940	-7,882	-8,362	
EBIT	33,424	38,905	46,023	50,012	
Growth, %	6	16	18	S	
Margin, %	10.9	10.9	11.3	11.4	
Interest paid	-218	-229	-241	-253	
Other Income	5,799	6,088	6,636	7,234	
Non-recurring Items	0	0	0	C	
Pre-tax profit	39,004	44,764	52,419	56,993	
Tax provided	-9,362	-11,281	-13,210	-14,363	
Profit after tax	29,642	33,484	39,209	42,630	
Others (Minorities,					
Associates)	-	-	-	-	
Net Profit	29,642	33,484	39,209	42,630	
Growth, %	-18	13	17	g	
Net Profit (adjusted)	29,642	33,484	39,209	42,630	

Cash Flow					
YE: Mar (INR mn)	FY21	FY22E	FY23E	FY24E	
Pre-tax profit	39,004	44,764	52,420	56,995	
Depreciation	6,769	6,940	7,882	8,362	
Chg in working capital	10,486	1,180	1,639	1,373	
Total tax paid	-9,362	-11,281	-13,210	-14,363	
CFO	41,316	35,744	42,336	45,386	
Capital expenditure	-7,351	-9,824	-10,000	-10,000	
Chg in investments	-22,770	-10,500	-11,550	-12,705	
Other investing activities	5,799	6,088	6,636	7,234	
CFI	-24,322	-14,235	-14,913	-15,471	
Free cash flow	11,195	15,421	20,786	22,682	
Debt raised/(repaid)	0	0	0	0	
Dividend (incl. tax)	-16,364	-21,039	-21,039	-21,039	
CFF	-16,582	-21,268	-21,280	-21,292	
Net chg in cash	412	241	6,143	8,624	
Opening cash balance	2,419	2,725	2,965	9,108	
Closing cash balance	2,725	2,965	9,108	17,732	

Balance Sheet					
YE: Mar (INR mn)	FY21	FY22E	FY23E	FY24E	
Cash & bank	2,725	2,965	9,108	17,732	
Marketable securities					
cost	93,902	1,03,293	1,13,622	1,24,984	
Debtors	24,268	29,343	33,442	36,172	
Inventory	14,696	17,033	19,413	20,998	
Loans & advances	892	1,040	1,184	1,280	
Other current assets	5,709	6,280	6,908	7,599	
Total current assets	48,288	56,662	70,054	83,780	
Investments	11,094	12,204	13,424	14,766	
Gross fixed assets	1,49,322	1,59,322	1,69,322	1,79,322	
Less: Depreciation	-87,841	-94,781	-1,02,664	-1,11,026	
Add: Capital WIP	1,779	1,603	1,603	1,603	
Net fixed assets	61,480	64,541	66,658	68,296	
Total assets	2,16,438	2,38,195	2,65,255	2,93,323	
Current liabilities	61,803	66,273	74,754	80,801	
Provisions	3,328	8,170	8,579	9,007	
Total current					
liabilities	65,131	74,444	83,332	89,808	
Non-current liabilities	-677	-677	-677	-677	
Total liabilities	64,454	73,766	82,655	89,131	
Paid-up capital	399.6	399.6	399.6	399.6	
Reserves & surplus	1,51,585	1,64,029	1,82,200	2,03,793	
Shareholders' equity	1,51,984	1,64,429	1,82,600	2,04,192	
Total equity &					
liabilities	2,16,438	2,38,195	2,65,255	2,93,323	

Ratios				
YE: Mar	FY21	FY22E	FY23E	FY24E
EPS (INR)	148	168	196	213
PER (x)	16.3	14.4	12.3	11.3
Price/Book (x)	3.2	2.9	2.6	2.4
EV/EBITDA (x)	9.6	8.2	6.7	5.8
EV/Net sales (x)	1.3	1.1	0.9	0.8
RoE (%)	20.2	21.2	22.6	22.0
RoCE (%)	26.9	28.6	30.5	29.7
Fixed Asset turnover (x)	2.1	2.2	2.4	2.5
Dividend Yield (%)	2.9	3.7	3.7	3.7
Receivable (days)	29	30	30	30
Inventory (days)	20	20	20	20
Payable (days)	71	65	65	65
Net D/E ratio (x)	(0.6)	(0.6)	(0.7)	(0.7)

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Stock Rating Scale	Absolute Return
BUY	>20%
ACCUMULATE	12% to 20%
HOLD	5% to 12%
NEUTRAL	-5% to 5%
REDUCE	-5% to -12%
SELL	<-12%

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