BUY

CMP: **INR 915** Target Price: **INR 1,150** ▲ 26%

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09 May 2024

India | Equity Research | Initiating Coverage

Gravita India

Metals

A capex and ESG play

We initiate coverage on Gravita India (GIL) with a **BUY** rating. Key points: 1) Three-dimensional growth focus – spanning geographies, products and value chain – to aid earnings growth; 2) macro tailwinds in recycling may be a formidable growth catalyst; 3) ESG endeavour being strengthened with steep and crisp targets; and 4) free cashflow generation even during the period of peak capex may maintain balance sheet strength. We peg EBITDA/EPS growth of 38%/24% through to FY26E and EBITDA margin improvement of 100-150bps p.a. (vs FY24) aided by volume growth. That said, in our view, earnings trajectory may improve further from FY27E aided by higher capacity utilisation; hence, we ascribe a P/E multiple of 21x (two deviations above past 1-year mean) FY26E EPS, resulting in a TP of INR 1,150.

Three-dimensional growth focus

Over the next two years, we see GIL on capex mode, adding capacities across geographies and products. As a result, we expect overall capacity to expand by 19% CAGR to reach 505.5ktpa by FY27E. Almost 62% of incremental capacity would be in India while rest may be put up in Africa. Furthermore, 56% of incremental capacity would be in lead recycling while rest could be in other verticals, resulting in lead being less than 70% of overall capacity by FY27E compared to 78% in FY24. We expect payback period of new capacities to be less than 3 years due to brownfield nature of expansion in most cases. Going ahead, management plans to add new verticals such as steel and lithium-ion batteries recycling, diversifying the mix further.

Catalysts: Macro tailwinds and regulatory changes

We see three major macro catalysts for GIL in near to medium term :1) Good domestic market prospects: India's share in global metal scrap recycling market (USD 500bn) is still a mere 2.2% and India and China are the drivers of recycled lead growth in the world; 2) shift from informal to formal sector with redefining of Battery Waste Management Rules (BWMR), extended producers responsibility and stricter implementation of GST; and 3) formal trading of ADC-12 alloy on MCX may enable back-to-back hedging of aluminium (similar to lead), leading to higher capacity utilisation at Indian facilities in near future.

Financial Summary

Y/E March (INR mn)	FY23A	FY24A	FY25E	FY26E
Net Revenue	28,006	31,608	39,407	48,186
EBITDA	2,860	3,309	4,087	5,422
EBITDA Margin (%)	10.2	10.5	10.4	11.3
Net Profit	2,041	2,423	2,824	3,732
EPS (INR)	30.0	35.6	41.5	54.9
EPS % Chg YoY	37.5	18.7	16.6	32.2
P/E (x)	30.5	25.7	22.0	16.7
EV/EBITDA (x)	1.1	1.3	0.8	0.7
RoCE (%)	27.1	22.1	20.5	22.0
RoE (%)	40.7	33.4	32.8	32.1

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Market Data	
Market Cap (INR)	63bn
Market Cap (USD)	757mn
Bloomberg Code	GRAV IN
Reuters Code	GRAI.BO
52-week Range (INR)	1,167 /536
Free Float (%)	32.0
ADTV-3M (mn) (USD)	2.5

Price Performance (%)	3m	6m	12m
Absolute	1.6	(19.5)	61.4
Relative to Sensex	(1.0)	(32.9)	42.4

Firm focus on ESG

GIL essentially runs 'waste to wealth' operations with lead recycling as the major source of revenue. Heavy metals are considered as potent pollutants and amongst them lead is categorised as one of the top pollutants all around the world. The environmental issues related to the management or recycling of spent lead-acid battery have already triggered substantial public consciousness and apprehension. That said, recycled lead is less energy intensive and its usage in energy storage is the key to renewable power. Moreover, the company, through circular sustainable business model, endeavours to segregate and sort scrap materials with rigorous quality inspection. There is zero liquid discharge in plants and bag filters are installed at the stacks to ensure that particulate emission is within limits. The company has well defined short-, medium- and long-term goals focusing on all the facets of ESG framework such as reduction in energy intensity, water intensity, Scope 3 reporting and usage of RE power.

Long trajectory of earnings growth

GIL management has planned INR 6.5bn of expansion capex to increase capacity by 66% to 505kt by FY27. Bulk of this capex (~75%) is likely to be spent over the next two years. Through to FY26E, we expect EBITDA and EPS CAGR at 38% and 24%, respectively. However, capacities commissioned over the next two years are expected to reach full utilisation only by FY28E, resulting in good earnings growth visibility even beyond FY28. The company's four-year rolling vision (for CY28) states entry into new verticals such as lithium, steel, rubber and paper clocking revenue and profitability CAGR of 25% and 35%, respectively. Despite capex intensity over the next two years, we expect the company to deliver positive free cashflow owing to better control on working capital days.

Valuation: We value GIL at INR 1,150/share on 21x FY26E EPS

Despite being in commodities space, GIL's margins are likely to remain stable due to back to back hedging policy of the company for lead. Going ahead, even aluminium recycling operations in domestic market (ADC-12 alloy) would be largely hedged, giving further stability to margins. Furthermore, despite the peak capex, net debt/EBITDA is likely to stay sub-1x from FY25E. The company reports gain from hedging as a part of other income (below EBITDA) and loss from hedging as a part of other expenses (above EBITDA). We understand that back to back hedging is operational in nature and in normal course of business. We value GIL on P/E due to: 1) Volatility in reported EBITDA due to hedging (which ultimately evens out at EPS level); 2) debt level is likely to reduce progressively and net debt/EBITDA may persist below 1x; and 3) EBITDA margin (sans hedging) can remain range bound at 10-12%. We value GIL stock at 21x FY26E EPS (two deviations above past 1-year mean) to consider growth prospects post FY26E though bulk of capex is likely to be incurred until FY26 and benefits would flow FY27E onwards. Our TP works out to INR 1,150/share.

Key risks

Our main thesis on GIL is capex and capacity ramp up. However, lead being one of the major pollutants is prone to adverse government policies and actions. That said, the company is taking effective measures in all the activities in value chain: sorting, handling, smelting and refining. Furthermore, a sizeable chunk of capacity is in Sri Lanka and Africa that is prone to geopolitical risks. GIL has been operating in these countries for quite a few years and has an umbrella structure for the subsidiaries under an entity in Netherlands. Lastly, slower than expected ramp up of GIL's upcoming capacities and faster adoption of lithium-ion batteries might have an adverse impact on earnings growth of the company. However, the company has plans to diversify into lithium-ion batteries recycling as well. Furthermore, their turnkey division supplies all the recycling equipment, hence the possibility of delay in putting up and commissioning new capacities is remote.

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Executive summary

Three-dimensional growth focus

GIL currently has four strategically located manufacturing facilities across four states in India, in addition to six manufacturing sites located out of India. Its total capacity as on end-FY24 was 302.8kt across three products – lead, aluminium and plastics. By FY26E, the company may expand capacity by 66% to 505kt and add a battery recycling plant in Oman through a JV with one of the largest scrap aggregators in Oman. The capacity in phase 1 would be 6,000tpa and would mark the company's first recycling facility in the Middle East. The management is also planning to set up a manufacturing unit in Dominican Republic. These upcoming sites are expected to provide access to new customers across the growing regions of Americas and the Middle East. Furthermore, the company has plans to expand into paper, steel and lithium-ion recycling post FY26 that would diversify its revenue base. Currently, 45% of 290kt capacity is front-ended to customised and value-added products. We expect this to increase to 50% in future as more refining facilities come up. We believe GIL's three dimensional focus on product, geographies and value chain, mitigates the concentration risk, besides a possibility to improve margins in the future.

Strategically located units and deep routed procurement network

In an operating model, where sourcing of raw materials can be more challenging than marketing the end-product, the company's manufacturing sites are located in the regions that have ready access to raw materials and a large nearby market. The company's global presence helps to procure material cheaper. The enabling philosophy to start small, grow volumes and establish new plants close to procurement centres provides significant logistic advantage. On scrap sourcing front, the company has deep routed procurement network comprising 31 own scrap yards and more than 1,700 touch points, enabling it source almost 250ktpa of scrap. In India, unlike its peers, GIL enjoys logistic benefits from pan-India presence. The location of the plants enables the company to serve 240 domestic customers in 22 states in India. In our view, the strategic location of plants in proximity to procurement centres and consumption areas has also created a formidable competitive moat.

Macro tailwinds may aid profitability and scrap procurement

The Indian waste management industry offers huge potential, as only 30% of 75% recyclable waste is being recycled currently. Proper policies for collection, disposal and recycling are now being implemented by the Govt. of India. The global norms for safe disposal of batteries through Extended Producer Responsibility (EPR) - where the producers (including importers) of batteries are responsible for collection and recycling/refurbishment of waste batteries and use of recovered materials from wastes into new batteries and the extension of such rules through Battery Waste Management Rules, 2022 implemented by the Govt. of India has been now made mandatory that all waste batteries to be collected and sent for recycling/refurbishment, while prohibiting disposal in landfills and incineration. To meet the EPR obligations, producers may engage themselves or authorise any other entity for collection, recycling or refurbishment of waste batteries. This may improve the scrap availability for formal sector. As per management estimates, share of formal segment in lead recycling in India is expected to improve from a mere 35% in FY24 to 75% in FY26.

Effective risk mitigation framework, now extending to aluminium

GIL has started following a formal hedging mechanism to hedge the entire commodity price exposure along with foreign currency exposure. The company adopted a formal back-to-back hedging policy from Jun'16 and hedged core inventory also in Jun'19. As a result, EBITDA margins are stable and not impacted by commodity price fluctuations. Further, nearly 50% of the revenue is generated through exports, resulting in a need to have suitable risk mechanism framework on exchange front as well. In India operations, there was no hedging mechanism in place for ADC-12, the most widely sold aluminium alloy. However, recently this alloy has been notified under Securities Contract. The management expects the launch of this aluminium alloy commodity derivative of MCX by next quarter followed by brand empanelment. As a result, management expects the utilisation of aluminium capacity in India to rise to 65-70% by end-Q4FY25 compared to a mere 11% in FY24.

Turnkey division – strengthening the core

In addition to recycling, GIL also offers turnkey solutions for recycling equipment and technology across the world. Thus far, the company has executed more than 70 turnkey projects globally including Qatar, UAE, Saudi Arabia, Poland and Chile. GIL has the capability to not only provide mechanical equipment but also design PLC based control & Monitor System for advanced set-ups. All the recycling equipment of the company is designed, fabricated, tested and installed in this division. Besides, an independent stream of income, Turnkey division is a key competency differentiator with peers as it aids in reducing the capex, controls the equipment delivery time and improves the overall RoE of the plant.

Vision 2028: Aiming higher and bigger

GIL is focusing on expanding its product and geographical reach besides increasing the value-added products proportion. The company has a 4-year rolling plan (currently Vision 2028) illustrating the key priorities. In Vision-2028, the company is targeting adding four new recycling verticals (lithium-ion batteries, steel, rubber and paper) in addition to the current three (lead, aluminium and plastics). On value addition front, the management is focused on increasing the proportion of VAP to 50% against 45% in FY24. On earnings front, the management is targeting revenue and profitability CAGR of 25% and 35%, respectively, and achieving RoCE of above 25%. The management has also sought to diversify the revenue base by increasing the share of non-lead business from a mere 12% in FY24 to more than 30% by FY28. On ESG front, the management is targeting 10% reduction in energy consumption and 30% of power usage to come from renewable sources.

ESG framework: Well-defined targets until FY50

While the operating model is focused on 'waste to wealth', GIL has concrete goals, especially in areas of energy intensity, use of RE power and water conservation. The management has targeted the reduction in energy intensity by 10% by FY27, 20% by FY34 and achieve net zero emissions by FY50. In the area of RE power usage, the company has targeted 30% and 50% of total power to be sourced from RE sources by FY27 and FY34, respectively. The management is also targeting reporting Scope 3 emissions by FY34 and has strategy to reduce Scope 3 emissions by FY34. In the area of water management, the management is targeting 10% and 25% reduction in water intensity by FY27 and FY34, respectively. By FY34, the management has targeted water neutrality for India operations. In overseas operations as well, the management has made significant ESG endeavours. In FY23, the step down subsidiary, Gravita Netherlands BV was provided 34mn Euros loan by European Development Financial Institutions Société De Promotion Et De Participation Pour La Coopération Economique S.A. "Proparco" and Oesterreichische Entwicklungsbank AG "OeEB". The facility was

granted after rigorous due diligence on various ESG aspects at overseas manufacturing subsidiaries.

Strong EBITDA/PAT growth through to FY26E and beyond

Led by likely capacity growth from 302.8ktpa from FY24 to 505.5ktpa by FY27 and progressively improving utilisation and VAP proportion, we expect EBITDA margin to improve by 100-150 bps p.a. through to FY26E. We estimate EBITDA/PAT growth of 38%/24% through to FY26E mainly driven by capacity ramp up and lower cost of procurement of domestic scrap. We also see an improvement in return ratios as new projects have a payback period of less than 3 years and RoE of more than 25% as most of the them are brownfield in nature and executed by the in-house turnkey division. Despite INR 6.5bn of capex through FY27E, we expect positive free cashflow as a result of higher operating income and lower working capital days as the management is working to rein in inventory days and receivable days. We expect net working capital days to reduce from 110 days in FY24 to 75 days by FY26E.

Valuation: We value GIL at INR 1,150/share on 21x FY26E EPS

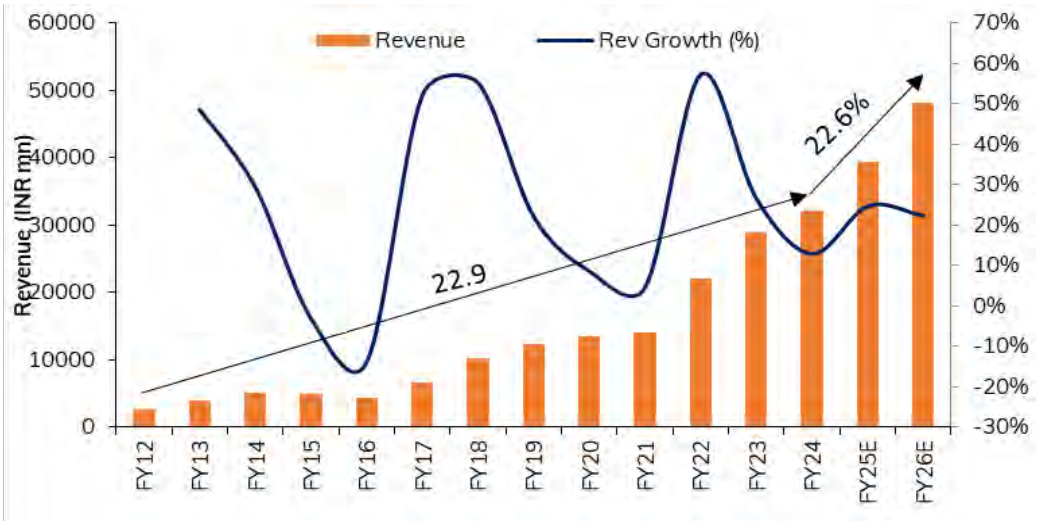
Owing to stable EBITDA margin, reducing debt and progressively improving returns, we value GIL based on P/E methodology. Factoring in the growth potential from higher capacity utilisation post FY26E for which 75% of the capex would have already been incurred by FY26, we ascribe a multiple two deviations above the past 1-year mean i.e. 21x. Our TP works out to INR 1,150/share, implying 26% upside to the CMP. We initiate coverage on GIL stock with **BUY** rating.

Key risks

As lead is one of the most polluting materials among heavy metals, any adverse government policy on usage, handling and recycling may have an adverse impact on the company's prospects. Bulk of overseas capacity is in Africa which is prone to geopolitical risks. Any change in government's policies towards scrap procurement may have an adverse impact on the company's operations. Our positive view on GIL emanates from capacity ramp up, hence, any delay in the commissioning is likely to have a negative impact on our growth estimates. That said, the recycling equipment is designed, built, erected and commissioned by the turnkey division of the company. Hence, this risk is effectively mitigated.

Story in charts

Exhibit 1: Revenue growth (historical+ estimated)

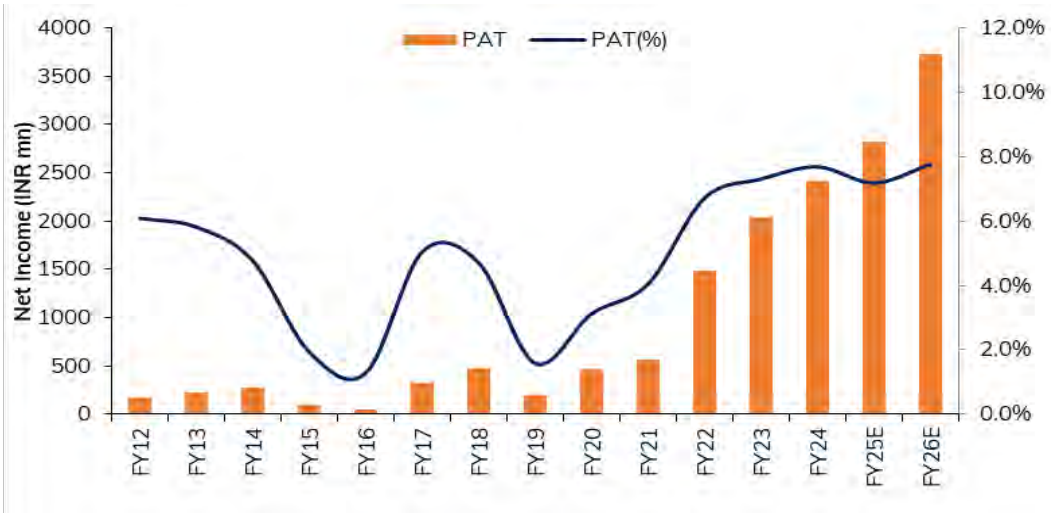


Source: I-Sec research, Company data

Exhibit 2: EBITDA and EBITDA margins growth

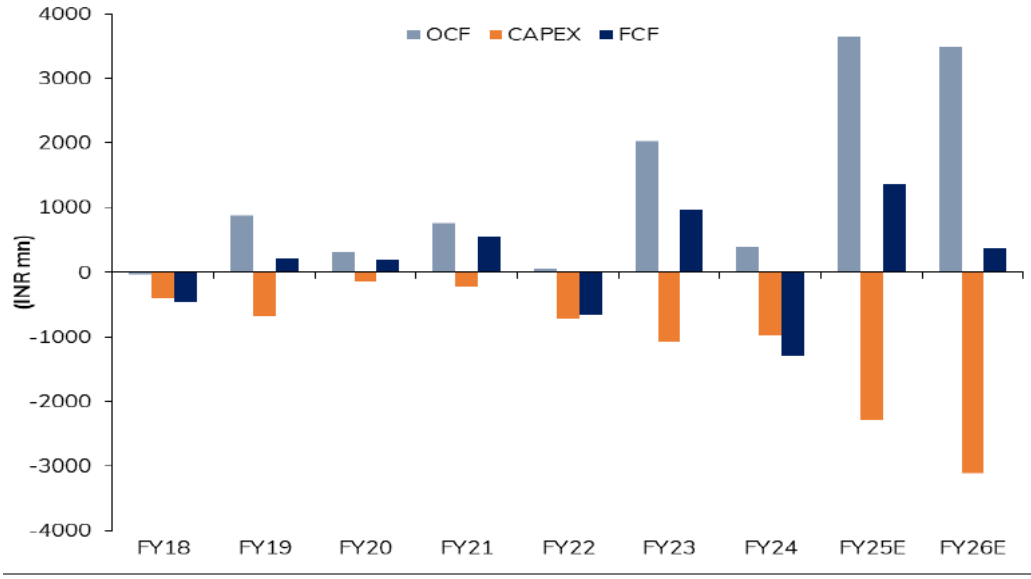
Source: Company data, I-Sec research

Exhibit 3: PAT and PAT margins likely to improve



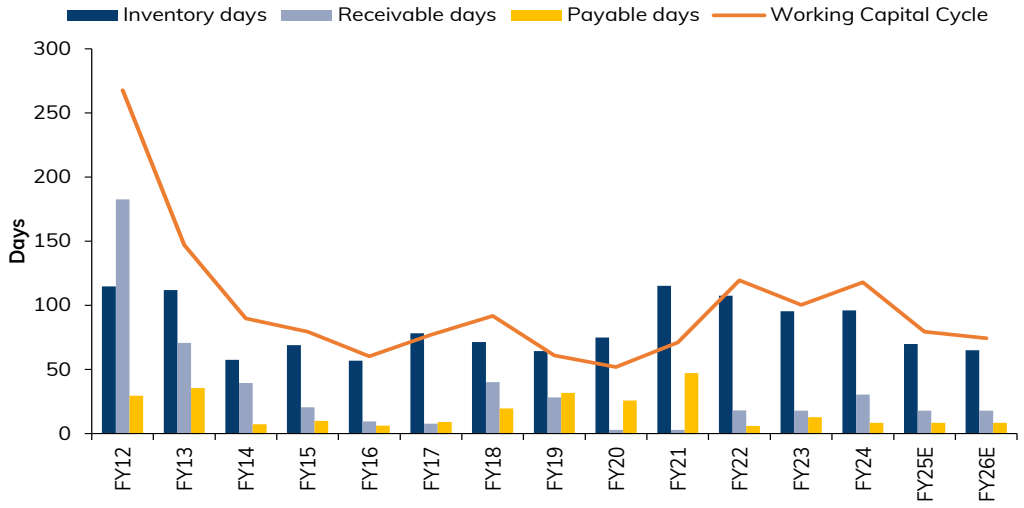
Source: I-Sec research, Company data

Exhibit 4: FCF generation despite high capex



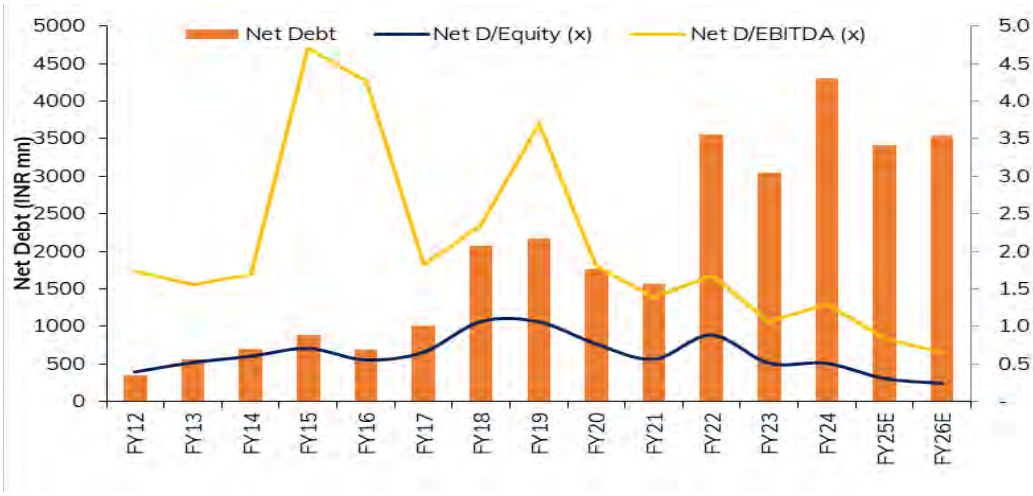
Source: I-Sec research, Company data

Exhibit 5: Working capital cycle have improved over the years



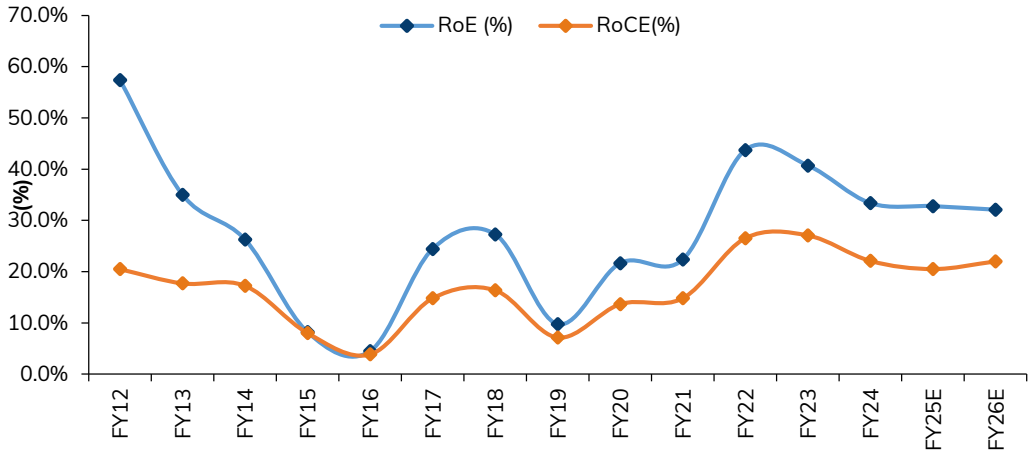
Source: I-Sec research, Company data

Exhibit 6: Lower leverage despite capex



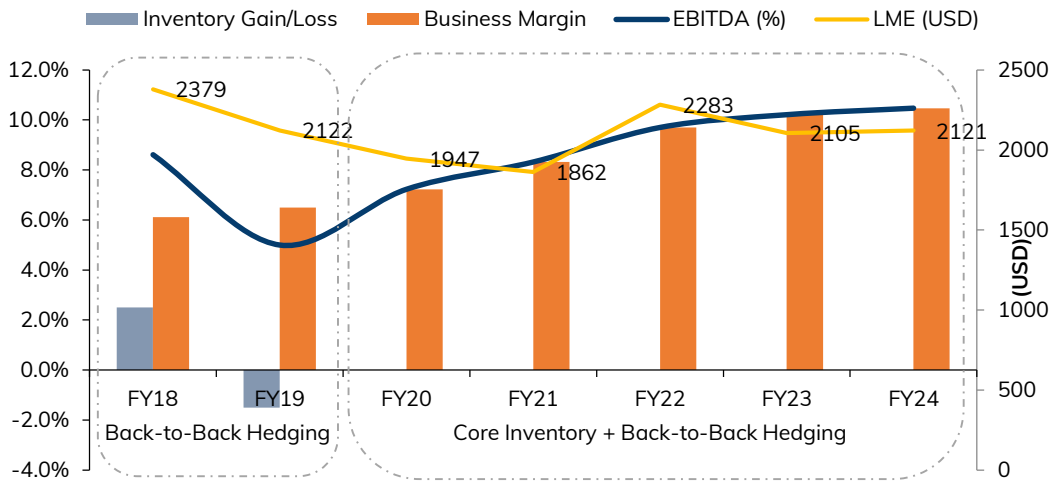
Source: I-Sec research, Company data

Exhibit 7: RoE and RoCE profile



Source: Company data, I-Sec research

Exhibit 8: Stable operating margins post hedging in lead business



Source: I-Sec research, Company data

Investment theme

~INR 6.5 bn capex to increase capacity by 1.7x through FY27

GIL plans to increase its capacity from ~303kte in FY24 to ~505kte in FY27 (up ~1.7x) aided by improved availability of domestic scrap (regulatory tailwinds) and taking advantage of the cheaper overseas scrap. **The capital allocation policy for new projects of the company comprises three main points including: i) Maximum payback period of three years, ii) 25%+ RoCE and iii) 8x+ asset turns.**

The estimated capex for capacity expansion is ~INR 6.5bn (FY25-FY27) of which the capex in existing verticals is ~70%. In FY24, GIL had incurred capex of ~INR 1bn. GIL already recycles rubber to make pyrolysis oil, steel wires and crumb rubber for its captive use.

Exhibit 9: Existing and proposed capacity expansion

(Kte)	FY24	FY27E	CAGR (FY24-FY27E)
Lead	237	350	14.0%
Aluminium	30	73	34.6%
Plastic	24	58	33.3%
Rubber	12	24	25.5%
Total	**303**	**505**	**18.6%**

Source: I-Sec research, Company data

The focus is on enhancing revenue from non-lead businesses. GIL has plans to put up capacities in new verticals like rubber, paper, steel and lithium-ion batteries etc. Currently, aluminium and plastic forms ~10-12% of revenue for the company; however, GIL plans to increase its non-lead business share to 30% by FY28.

Exhibit 10: Capacity expansion through FY27E

New capacities (in kte)	FY25E	FY26E	FY27E
Lead	26	52	36
Aluminium	14	22	8
Plastic	8	12	14
Rubber	3	9	-
Total	**50.0**	**94.2**	**57.6**

Source: I-Sec research, Company data

India is likely to be the focal region for growth. Through FY27, nearly 61% of the additional capacity is likely to be added in India with Mundra accounting for 47% of incremental capacity in India. In overseas, the company is adding two new geographies- Oman and Dominican Republic (DR).

Exhibit 11: Plant-wise capacity addition

New capacities (in kte)	FY25E	FY26E	FY27E
Chittoor		6	
Jaipur		16	
Mundra	34	15	6
East India		12	12
Ghana	8		
Mozambique	1		
Togo	1		
South Africa	1	14	12
DR		6	16
Oman	6	14	

Source: Company data, I-Sec research

The low capex intensity, partially due to equipment supplied by its own turnkey solutions business is likely to ensure that payback period is restricted within 3 years and RoE is maximised.

Exhibit 12: Incremental capex intensity

Incremental Capex Intensity	Capacity (kte)	Capex (INR mn)	Capex (INR/te)
Lead	114	2,270	20,000
Aluminium	43	720	16,500
Plastic	33	735	22,500
Rubber	12	470	39,500
Total	**202**	**4,195**	**21,000**

Source: I-Sec research, Company data

Volume growth is the primary earnings driver

Over the past 5 years (FY19-FY24), sales volume of the company has grown by ~14.6% CAGR, revenue has grown by ~20.5% CAGR, EBITDA has grown by 37.0% CAGR and net profit has grown by 65.7% CAGR. Among segments, lead registered the highest growth, with volume and revenue growing by 16.6% and 21.3%, respectively. In FY24, GIL had commissioned new capacities of ~79.4kte (lead- 77kte and rubber-2.7kte). Further, overall capacities of the company have almost doubled from FY19 level (overseas grown 2.5x). The share of VAP had increased to ~44% in FY24 (~43% in FY23) and it plans to increase the same to 50% by FY27. Currently, aluminium and plastics form ~12-15% of revenue for the company; however, GIL plans to increase its non-lead business share to 30% by FY28 (vision-2028).

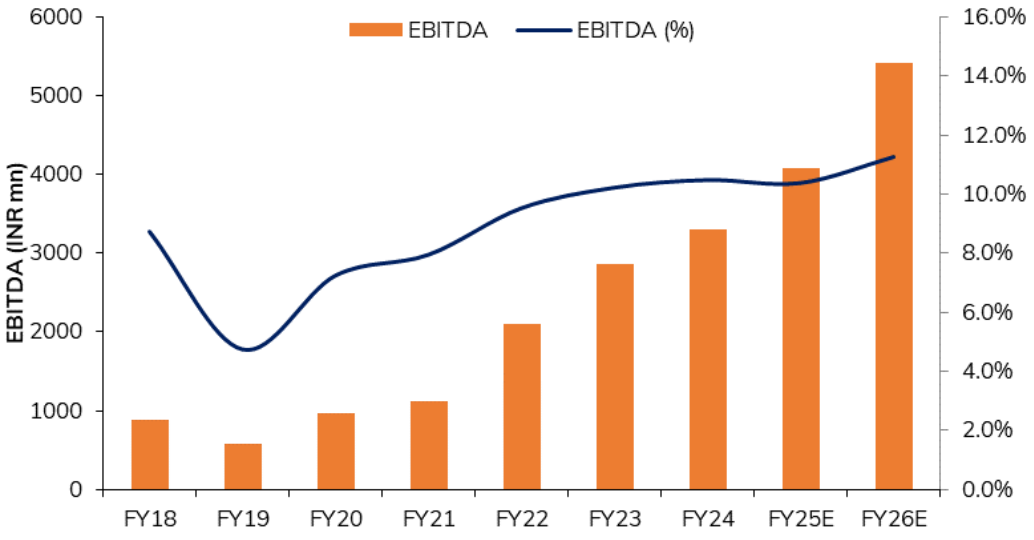
Exhibit 13: Commissioning of new capacities

	FY20	FY21	FY22	FY23	FY24	FY25E	FY26E	FY27E
New capacities								
Indian capacities (kte)	-	-	29.5	-	59.9	33.5	60.6	30.0
Overseas capacities (kte)	15.0	3.0	5.0	18.5	19.5	16.5	33.6	27.6
Total (kte)	**15.0**	**3.0**	**34.5**	**18.5**	**79.4**	**50.0**	**94.2**	**57.6**

Source: I-Sec research, Company data

The EBITDA margin of the company has been stable ~9% (+/-1%). Further, the company plans to increase its capacity from 302.9kte in FY24 to 505.4kte in FY27 (up ~1.7x) and the estimated capex for this capacity expansion is >INR 6.5bn (FY25-FY27). As a result, we expect EBITDA to grow by 38% CAGR through to FY26E (baseline: FY24) and EBITDA margin to expand by 100-150bps p.a.

Exhibit 14: EBITDA may increase by 1.6x by FY26E

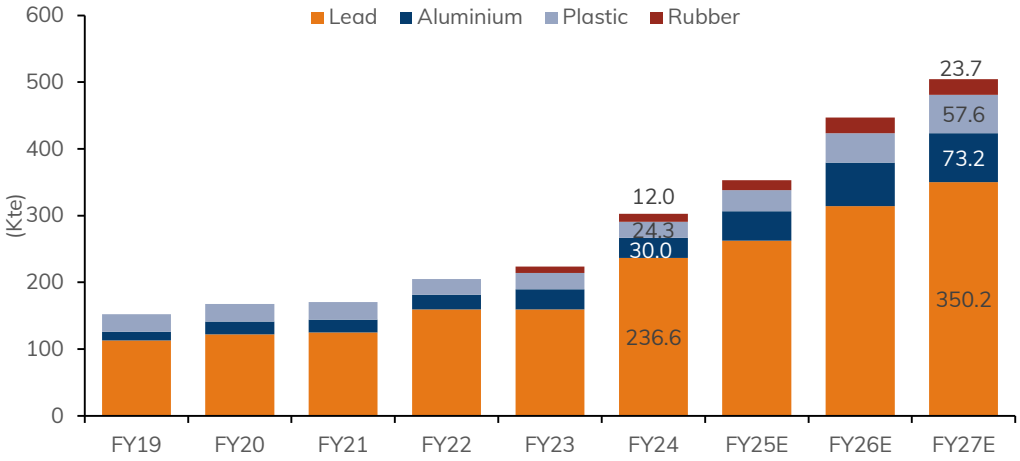


Source: I-Sec research, Company data

Diversified product base and strategically located plants

The company has established and proven track record of >3 decades into the recycling business in India and >2 decades of overseas experience. At present, it has 10 recycling plants (4 in India and 6 overseas) with a combined capacity of 302.9kte (FY24 end), and it plans to increase its capacity from 302.9kte in FY24 to ~505.5kte in FY26 (up ~1.7x).

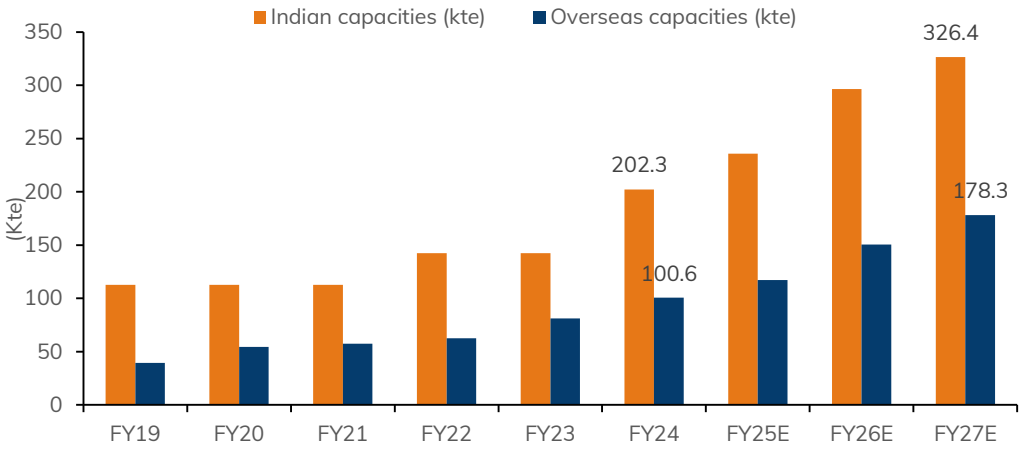
Exhibit 15: Segmental capacities of the company



Source: I-Sec research, Company data

Its overseas capacity is ~33% of total capacity and overseas plants are located in Africa and Sri Lanka.

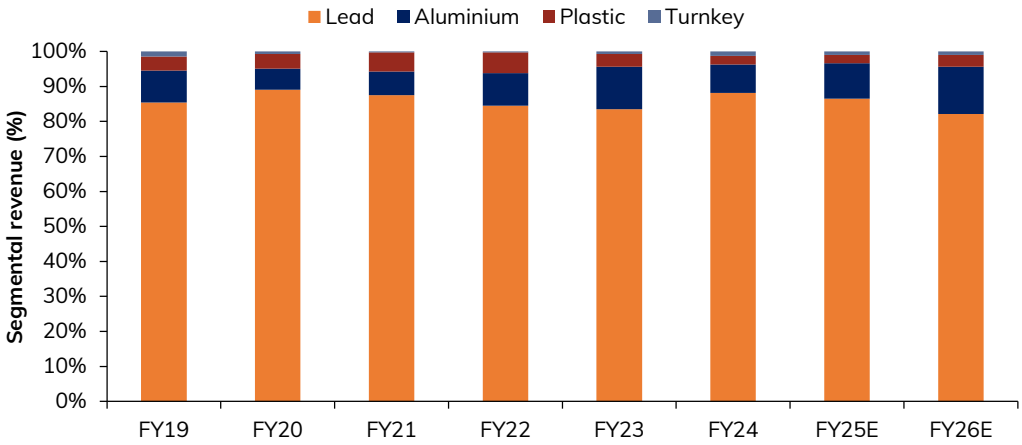
Exhibit 16: Domestic and overseas capacities of the company



Source: I-Sec research, Company data

In FY24, GIL generated ~38% of its revenue and ~29% of its EBITDA from overseas operations. Further, company's business is well diversified into recycling of lead, aluminium, rubber, plastics and Turnkey solution. Also, it plans to diversify its capacity into new verticals like rubber, paper, steel and lithium-ion batteries etc. by FY27. At present, lead contributes >85% of revenue and ~80% of profits.

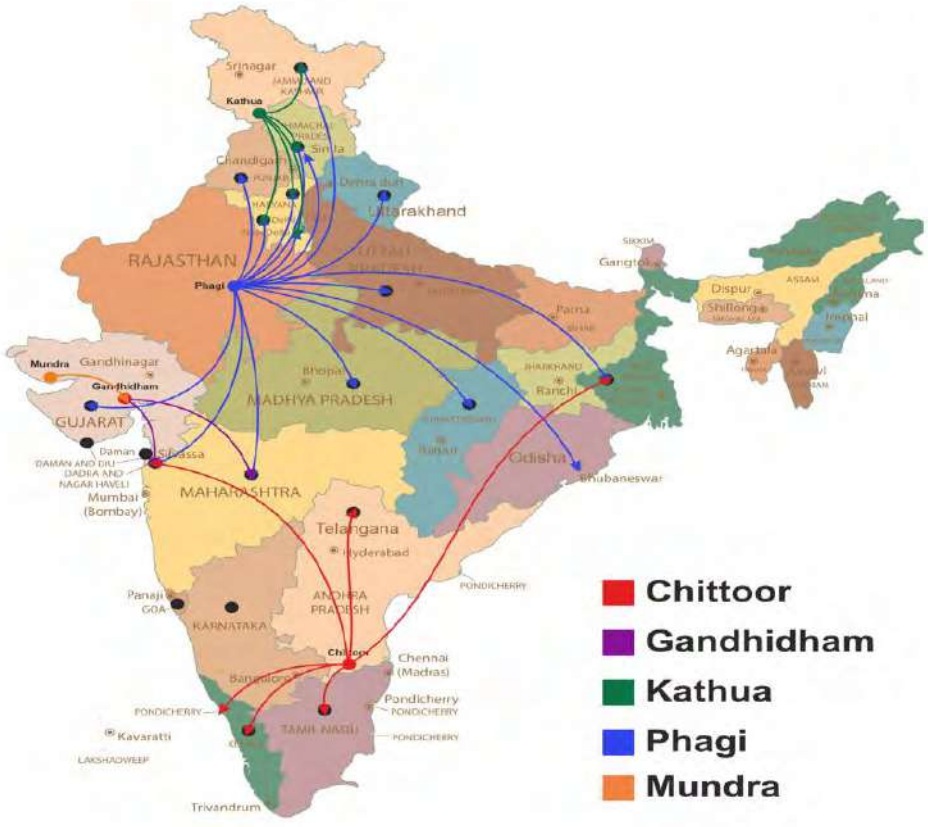
Exhibit 17: Diversified revenue base



Source: I-Sec research, Company data

The recycling plants of the company have been set up closer to ports (for freight cost savings) and/or battery manufacturers/ industrial hubs (for easy customer access and lower distribution costs). Moreover, its diversified presence allows it to take delivery of scrap from one region and supply lead from another plant that is the closest to the customer's factory, resulting in significant cost savings for its customers.

Exhibit 18: Strategic location of plants in India gives logistics advantage



Source: Company data, I-Sec research

Exhibit 19: Global and pan-India operations

Source: I-Sec research, Company data

Robust hedging mechanism in lead now being extended to aluminium

Currently lead contributes ~85% of the revenue and profits, hence, the volatility in lead prices impacts the profitability of the company. GIL entirely hedges its exposure for lead through a forward contract of both: i) Sales (back-to-back) and ii) core inventory. Hedging has helped it maintain stable operating margins in lead business. However, it remains exposed to commodity risks on aluminium and plastic, as both of them are alloyed products for which hedging is not available at present, exposing the company to raw material price volatility.

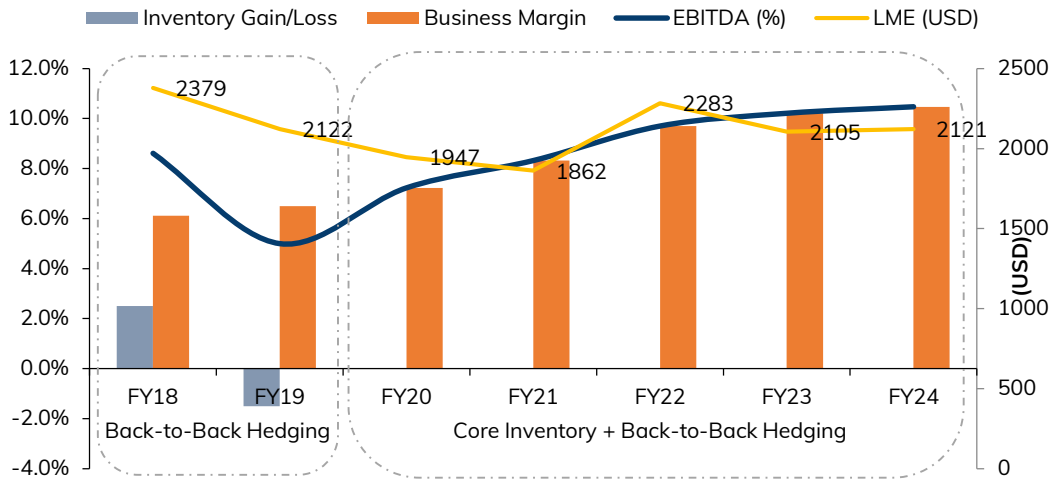
How do they do it?

To mitigate the risk of commodity prices fluctuation from Jun'16

- Metal equivalent of the scrap bought, is sold on the same day
- Pricing against customer contracts – natural hedging
- Forward contracts on LME exchange for balance quantity - till final sale to customer
- Core inventory was not part of back-to-back hedging

The management hedged core inventory in Jun'19 and since then, GIL has been enjoying stable margins and profitability has not been affected by commodity price fluctuations.

Exhibit 20: Stable operating margins post complete hedging in lead business



Source: I-Sec research, Company data

Hedging in aluminium recycling: In aluminium recycling, the company is working on hedging arrangement with MCX. Initially, it may take at least two quarters for effective hedging in aluminium recycling. Post the hedging, margins and capacity utilisation of its aluminium segment in India may improve significantly.

Robust ESG framework in place

The company focuses on crucial areas that form the foundation for its ESG vision. These strategic pillars are: i) Environmental stewardship; ii) social responsibility; and iii) governance excellence.

Exhibit 21: Foundation pillars for ESG vision

Environmental Stewardship	Social Responsibility	Governance Excellence
Net zero emissions	Employee well-being and inclusivity programmes	Transparent corporate governance practices
Resource efficiency & circular economy practices	Community engagement & development	Board diversity & independence
Bio-diversity conservation projects	Ethical supply chain management	Robust risk management protocols

Source: I-Sec research, Company data

Exhibit 22: ESG dashboard

	FY22	FY23	FY24
Environment			
Recycling verticals	4	4	4
Recycling Plants	12	11	11
Scrap collection (kte)	180+	205+	250+
Products delivered (te)	130+	155+	169+
Recycled Products (te)			
Lead			1,48,500
Aluminium			10,800
Plastics			8,500
Tire Oil (KL)			3,097
Energy Intensity (GJ/te)			4.30
Water Intensity (KL/te)			0.43
Solar power (mn Units)			1.68
Solar power abated (TCO2)			1,192
Renewable power usage – India			10.0%
Renewable power usage - Global			7.0%
Social			
ESOPs rounds	4	4	4
Women Employees	4.0%	6.0%	~6.4%
CSR Spend (INR mn)	7	9	~16
Fatalities			-
LTIFR			3.80
Governance			
Independent Directors	50.0%	50.0%	50.0%
Credit Rating	A	A	A+

Source: I-Sec research, Company data

Short term ESG targets (FY24-FY27)

Energy: All sites to undergo energy audit and prepare a robust energy efficiency improvement plan and achieve 10% reduction in energy intensity over FY24 base (GJ/te).

Emissions: Set scope 1 and 2 baseline for Gravita group covering 100% operations as of FY24. Shift 30% power requirement to renewable energy. Start with biofuel trials in operations and also start replacement trials for charcoal in furnaces. Introduce Scope 3 by FY26 in reporting. Developing a scope 3 reduction strategy and projects pipeline.

Environmental protection: Achieve 100% environmental compliance with national standards. Digitalisation of environmental compliance register for easy tracking and follow up.

Water: Start water audit for water usage optimisation at all sites and preparation of project pipeline. Reduce water intensity by 10% over FY24 base (KL/te) of production. Introduce water risk assessment for all sites and action plan.

Waste: Improve solid waste utilisation up to 10% over FY24 base.

Safety: Establish a mechanism for reporting, tracking and measuring safety-related injuries. Implement ISO 45001 system in overseas operations and achieve 100% periodic medical exam for workers as well as employees.

Product quality: Get EPD certification for lead and plastic products. Reduce customer rejection by 10% YoY and also reduce metal reprocessing quantity by 5% YoY.

Employee skilling: Include ESG training suit in Gurukul (in-house learning platform), conduct awareness session on ESG and conduct employee engagement survey once every year.

Gender diversity: Create diversity hiring plan at department level and develop organisation talent management programme for a leadership pipeline.

Medium term ESG targets (FY28E-FY34E)

Energy: Achieve 20% reduction in energy intensity over FY24 base (GJ/te)

Emissions: Shift 50% power requirement from renewable energy. Introduce 20% biofuel blending in fuel mix, replace coal and charcoal with alternate fuels. Improve climate change awareness through its community outreach programme. To work on scope 3 targets-projects and framework to be put in place.

Environmental protection: Establish a biodiversity conservation programme that includes protecting and restoring local ecosystems affected by operations. Conduct climate risk analysis for global operations and identify areas of action. Nature reporting in line with the Taskforce on Nature-related Financial Disclosures (TNFD) recommendations.

Water: Achieve water neutrality for India operations by 2034. Reduce 25% water intensity over FY24 base for existing production verticals. Start rainwater harvesting at all locations.

Waste: Conduct a waste audit to identify the other waste streams, process gaps and reduction opportunities. Form strategic partnerships with cement and/ or other industries to identify use cases for lead slags and to achieve 100% utilisation in lead wastes and other hazardous substance sent to landfill.

Safety: Achieve zero fatalities. Introduce and reduce LTIFP and TRI FP by 50% over FY26 base.

Product quality: Achieve zero customer rejection as well as zero metal reprocessing. Implement ISO 9001 across all Gravita sites.

Employee skilling: Increase training hours by 10% over FY24 base. Improve gender diversity by 100% over FY24 base. Achieve 'Great Place to Work' certification.

Gender Diversity: Improve gender diversity in technical roles by 100% over FY24 base. Ensure 10% women employment in senior management.

Long term ESG targets (FY35-FY50)

Emissions: Achieve net zero (Scope 1&2) emissions by CY50 for Gravita group.

Water: Achieve water neutrality for Gravita group by CY40.

Waste: Achieve zero waste to landfill by CY40 for India and CY50 for Gravita group.

Safety: Implement best in class health and safety framework.

Exhibit 23: ESG roadmap

(Base year FY24)		Targets		
Key Area	Performance Indicator	FY27E	FY34E	FY50E
Energy	Energy intensity	10% reduction	20% reduction	
RE Power	Renewable power usage	30% of Total Power usage	50% of total Ppower usage	
GHG emissions	Scope 3 emissions	Scope 3 emissions reporting	Strategy & execution for Scope 3 reduction	
	Scope (1+2) emissions			Net zero emissions
Water Management	Water intensity	10% reduction	25% reduction	Water neutrality (CY40)
Waste Management	Waste utilisation	10% utilisation	Partnership for waste utilisation	Zero waste to landfill - India (CY40)
				Zero waste to landfill - Gravita group (CY50)
Safety	ISO 45001 framework	100% implementation		
	LTIFR		50% reduction	
	Health and safety framework			Best in class health and safety framework
Quality	Customer rejection	10% reduction	Zero customer rejection	
Gender Diversity	Women employees		100% improvement	

Source: I-Sec research, Company data

Diversifying into new verticals

Apart from its existing verticals of recycling, GIL plans to diversify its recycling capabilities into: i) Li-ion battery waste, ii) steel recycling and iii) paper recycling. Out of the total planned capex of ~INR 6.5bn (FY25-FY27), company plans to invest ~INR 2.1bn into new projects.

We believe, entry into new segment may diversify its profits, reducing dependency on its single largest vertical (lead). The operating margins in these new segments may be better-than-existing verticals.

Li-ion battery waste. The company has applied for Consent to Establish (CTE) from the relevant authorities at its Mundra plant to begin a pilot project and is waiting for concerned approvals.

Steel recycling. The feasibility study for a steel plant in Africa is expected to complete by FY25 end. The capacities are expected to be operationalise in FY27.

Paper recycling. The feasibility study for a paper plant in Central America is likely to complete in FY25. The capacities are expected to be operationalise in FY27.

Vision 2028: Firm focus on Earnings, ESG and Returns

GIL is focused on achieving its ambitious Vision-2028 which includes: i) Diversifying into new verticals, ii) 25%+ revenue CAGR, iii) 35%+ profitability CAGR (taking operating leverage advantage), iv) non-lead business contribution of >30%; v) RoCE of 25%; vi) >50% contribution from value-added products; and vii) 10%+ reduction in energy consumption. In order to achieve these milestones, GIL plans a capex of ~INR 6.5bn (FY25-FY27) to increase its manufacturing capacity to >500kte by FY27 (~300kte in FY24). The ambitious targets of the company will be supported by favourable policy changes (as discussed in other points) and the Indian waste management industry offers huge potential, as only 30% of the 75% recyclable waste is being recycled currently.

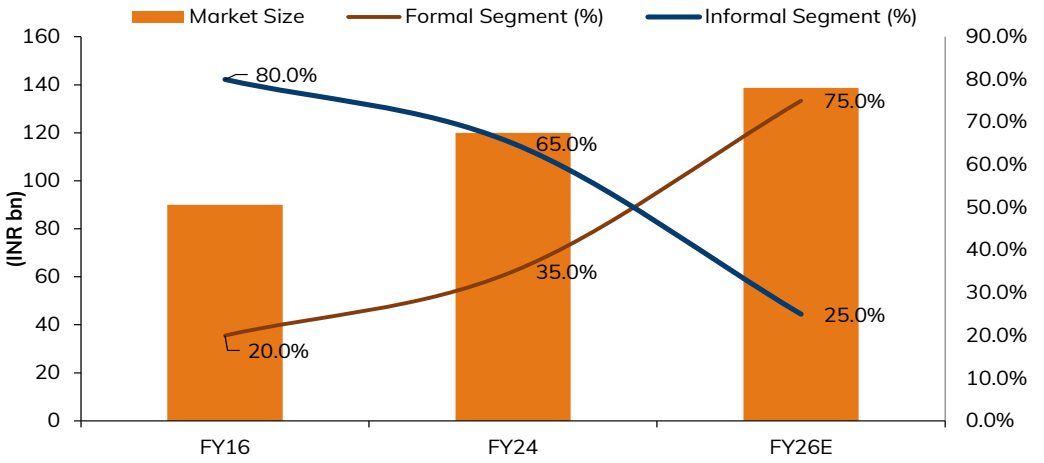
Exhibit 24: Vision – CY28

Source: I-Sec research, Company data

Favourable regulatory tailwinds

The Battery Waste Management Rules (BWMR) was notified in Aug'22 and it imposes Extended Producer Responsibility (EPR) on battery producers and importers, holding them accountable for the collection, recycling and use of recycled materials in new batteries. The BWMR-2022 rules extend to various types of batteries, including electric vehicle batteries, portable batteries, automotive batteries, and industrial batteries. We believe with the redefining of the BWMR, the availability of scrap for formal recycling sector is expected to grow and it should significantly increase scrap availability for the organised sector and shrink the unorganised sector to 25% by FY30 from the current share of ~65%.

Exhibit 25: Informal lead recycling trend in India



Source: I-Sec research, Company data

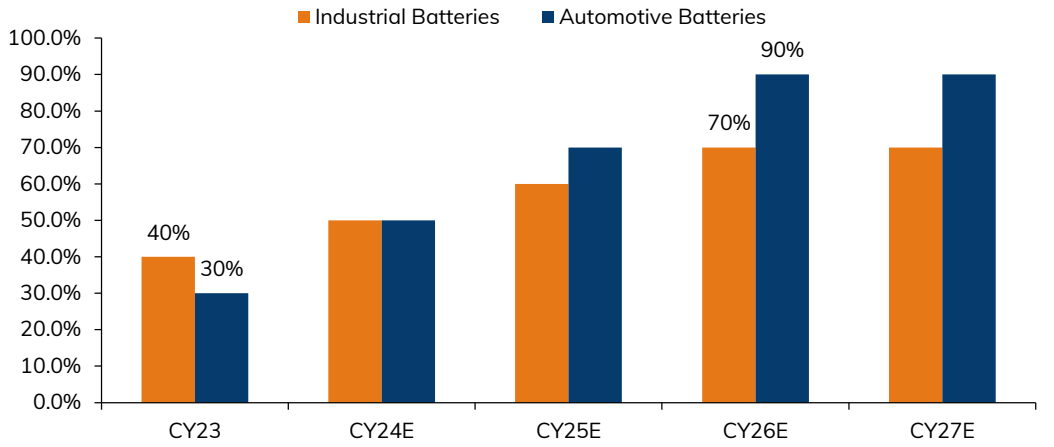
Currently, >80% of lead acid batteries are used as automotive batteries and industrial batteries. The BWMR'22 covers all batteries (except batteries used in critical applications such as security and defence).

What is EPR?

In EPR, the producer (including manufacturer, seller, and importers) of batteries is obligated for collection and recycling/ refurbishing of waste batteries and use of recovered materials in new batteries. Rules define minimum percentage of recovery of battery materials and minimum amount of recovered materials to be used in new batteries. Further, the collection and recycling can be done by the producer himself or through recyclers. In case of recyclers, they will be assigned EPR certificates by the Central Pollution Control Board (CPCB) based on the recycled quantity of waste and

they can then sell the assigned EPR certificates to a producer in exchange of waste batteries.

Exhibit 26: Yearly waste collection targets (minimum) for producers as per BWMR



Source: I-Sec research, Company data

Stricter implementation of GST could be a key driver

Unorganised recyclers get a significant cost advantage through the evasion of GST (18%) on scrap purchase and it is the key economic viability driver for these unorganised players despite the inefficient plant and operating scale. The unorganised players are able to offer better realisation as they evade GST, thereby, giving them an additional 18% headroom.

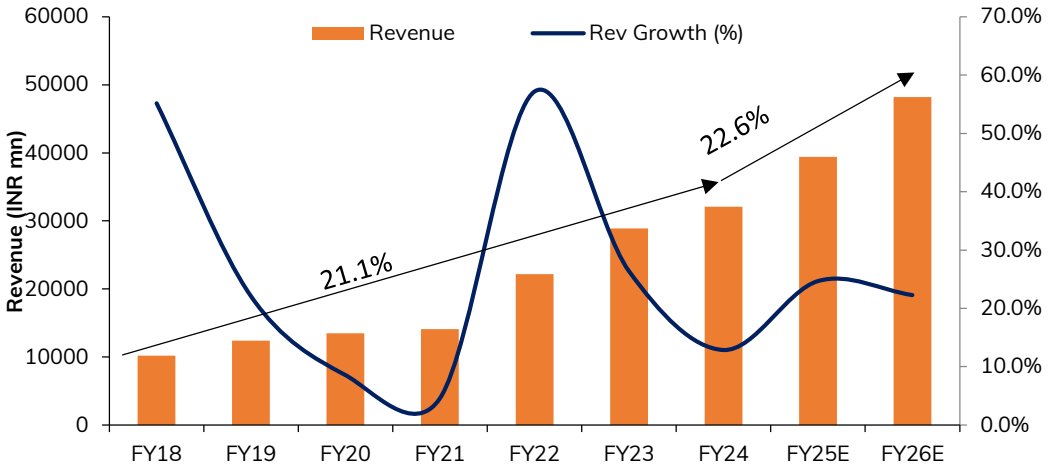
The recycling industry has put forth a strong appeal to levy GST on steel scrap using the reverse charge mechanism (RCM). This will likely help the organised sector in procuring scrap from local scrap dealers and gradually shrink the unorganised recycling sector.

Financial analysis

Expect revenue growth of 23% CAGR FY24-FY26E

We expect ~23% revenue CAGR (FY24-FY26E) on the back of overall volume growth of ~26%. The volume growth may be fuelled by capacity expansion (by 1.9x; FY23-FY26E) and improved capacity utilisation. Further, we believe major volume growth may be in aluminium (~62.1% CAGR) and plastic segments (52.5% CAGR). The volume in lead segment is expected to grow by 18.7% CAGR.

Exhibit 27: Healthy revenue growth in sight

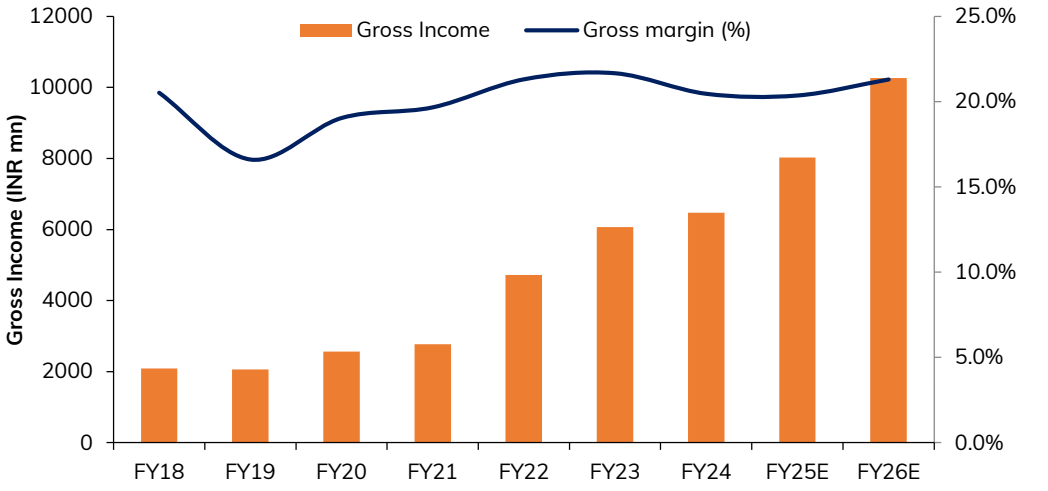


Source: I-Sec research, Company data

Margins expected to improve

The gross margin of the company has been in the range of 19% (+/-2%), with average gross margin for the past six years at ~19.3%, while FY24 gross margin stood at ~19%. The gross margin of lead segment (which contributes >80% of company's profit) has improved over the years mainly due to its hedging mechanism which protects itself from price volatility.

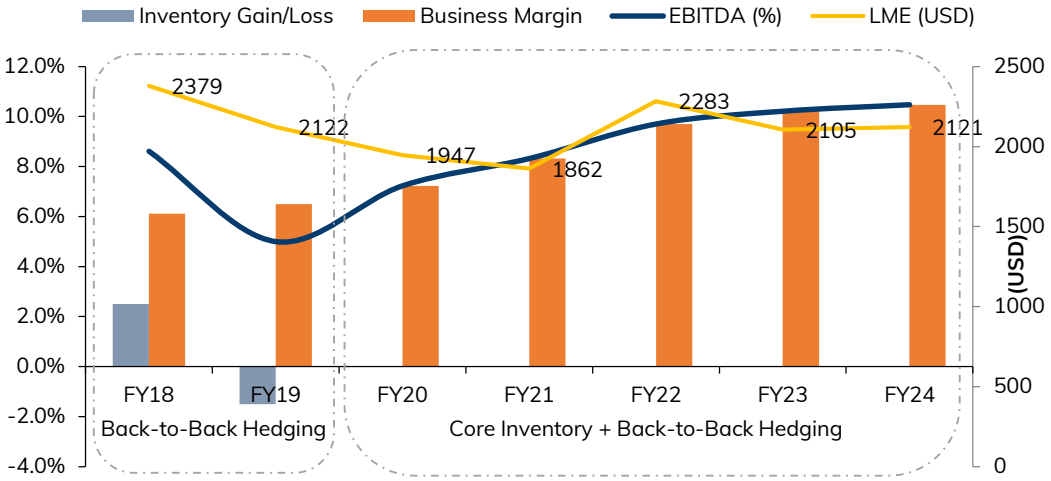
Exhibit 28: Gross margins are expected to remain stable



Source: I-Sec research, Company data

Historically, the EBITDA margin of the company has been volatile due to fluctuation in commodity prices. However, it has started becoming stable as the company commenced its hedging in lead segment in Jun'16. The average EBITDA margin over FY13-FY16 was 5.8%, which has improved to 7.1% (average during FY17-FY19) and in FY19, GIL has started hedging its core lead inventory and post FY19-FY23, average EBITDA margin was 8.2%.

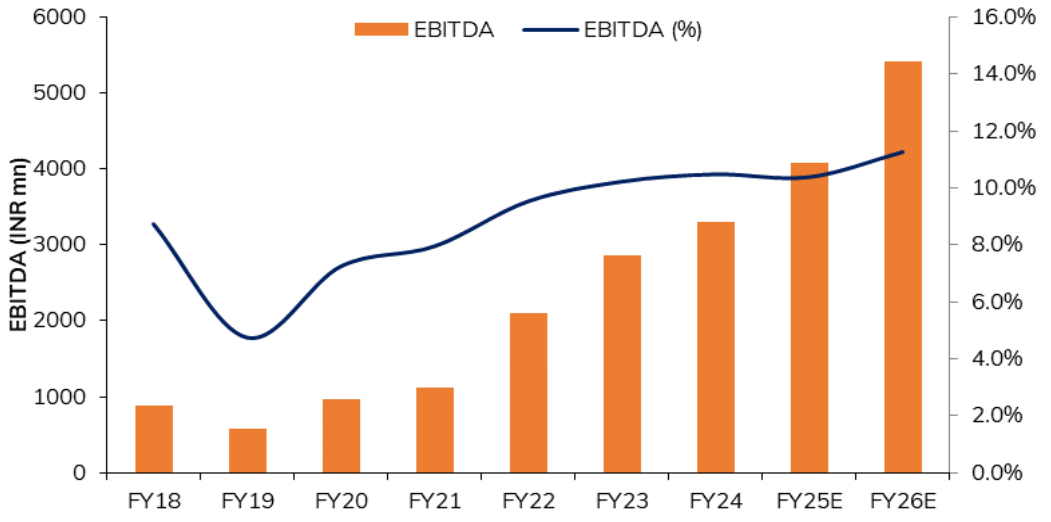
Exhibit 29: Stable operating margins post complete hedging in lead business



Source: I-Sec research, Company data

In FY24, EBITDA margin had improved to 9%. We expect the margin may improve further with the kick starting of aluminium hedging.

Exhibit 30: Robust EBITDA margins in store

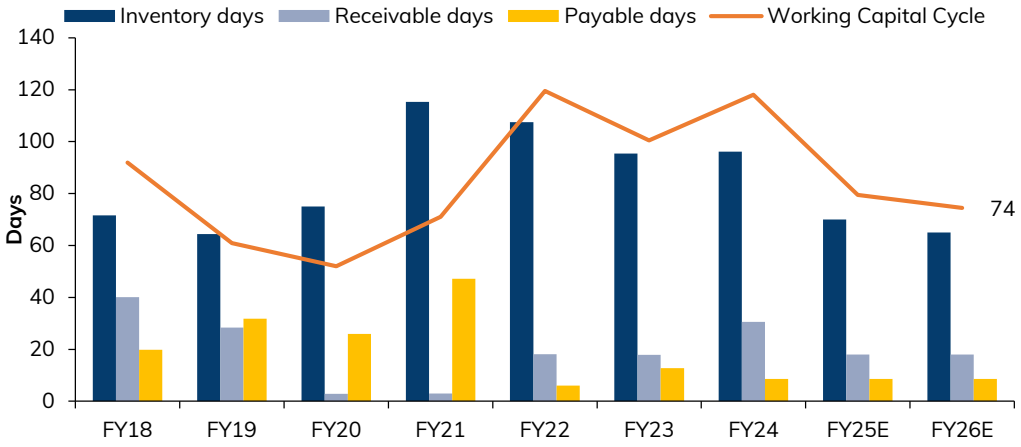


Source: I-Sec research, Company data

Working capital days likely to decline

The working capital days of the company has increased significantly post FY19, it was ~67-68 days in FY19, which has increased to ~110 days in FY23. We estimate working capital days to decline to ~74 days gradually till FY26E.

Exhibit 31: Working capital to remain at current level

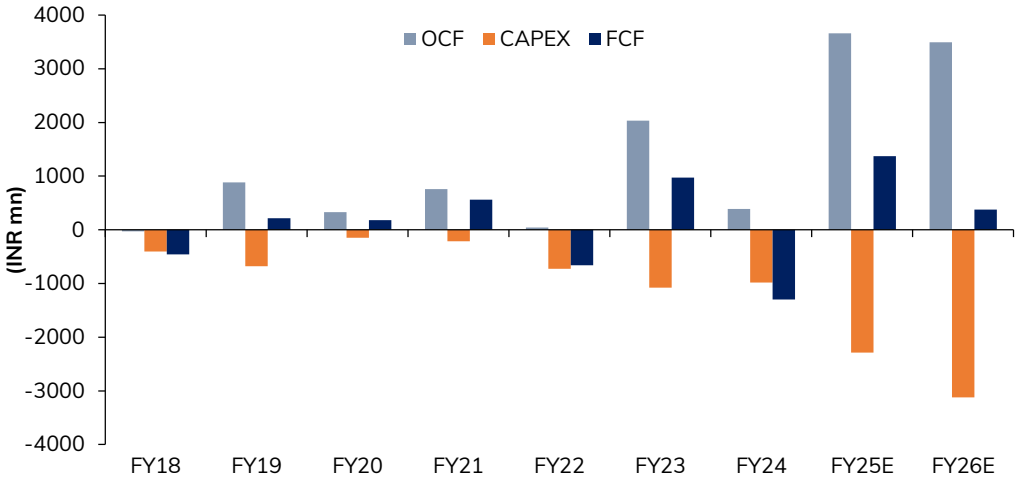


Source: I-Sec research, Company data

FCF is likely to remain positive despite capex and working capital needs

The company has intensive capex plans of >INR 6.5bn for FY25-FY27 (~2x of its cumulative capex incurred in FY18-FY23). The capex will increase its capacity by 1.7x till FY27 and we believe the capex may be funded by internal accruals. Despite a negative FCF in FY24, we estimate a positive FCF in FY25E and onwards led by internal cash accruals and working capital release.

Exhibit 32: Near-term FCF constrains on higher capex and working capital

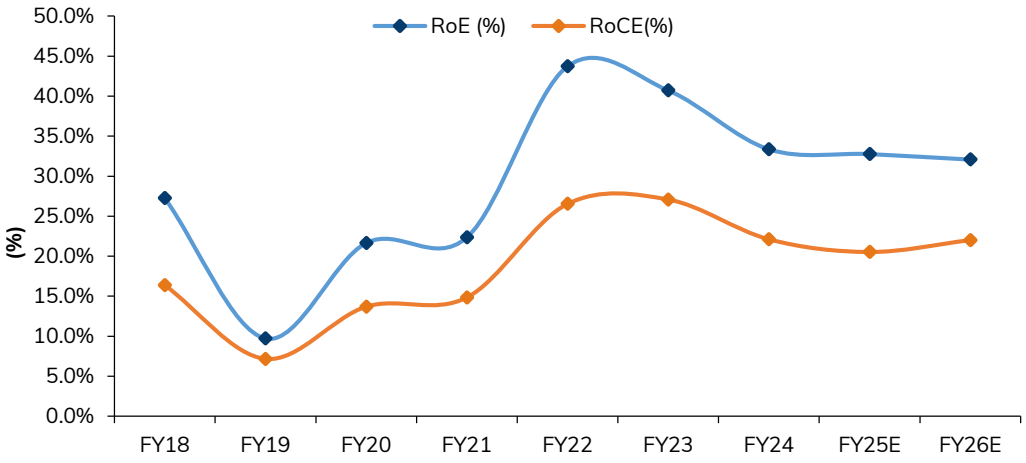


Source: I-Sec research, Company data

Returns ratios likely to improve post FY26E

While the RoCE of the company was 20.9% in FY23, and the company in its vision-2027 has targeted RoCE of 25% by FY27, we believe the same is achievable with stable margins and improved performance of the company.

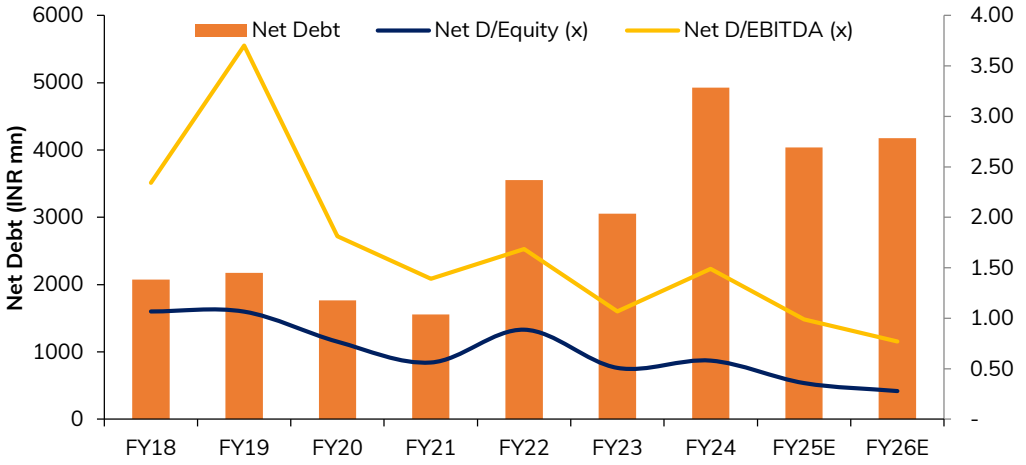
Exhibit 33: RoCE is likely to remain stable in the near term



Source: Company data, I-Sec research

Though the net debt may increase in the near term due to higher capex intensity, net debt/equity and net debt/EBITDA is expected decline further.

Exhibit 34: Borrowing profile of the company (debt to equity, debt to EBITDA etc.)



Source: I-Sec research, Company data

Business description

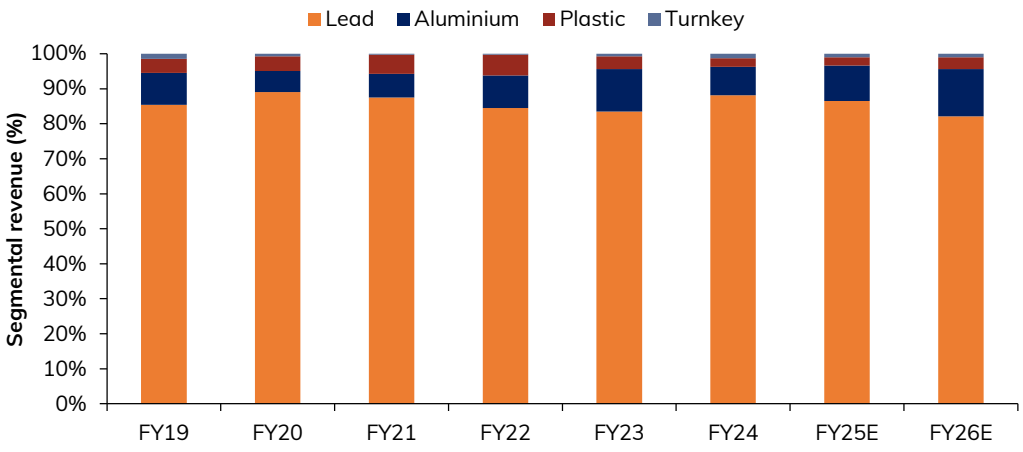
GIL commenced operations in 1992 with the business of recycling lead acid batteries, lead scrap, aluminium scrap, plastic scrap and rubber scrap. Its first lead recycling plant was set up in Jaipur (in Rajasthan) in 1994 and its first overseas recycling unit was set up in Sri Lanka in 2001. Presently, Gravitas has 11 recycling plants and 1 manufacturing plant (for turnkey solution division) located in Rajasthan, Gujarat, Andhra Pradesh, Jammu & Kashmir, Sri Lanka (Mirigama export zone), Ghana (Accra), Mozambique (Maputo), Senegal (Dakar), Tanzania (Dar-es-Salam), Togo and Nicaragua (Managua) with an aggregate ~286kte+ recycling capacity for lead, aluminium, plastic and rubber (rubber unit was set up in FY23 and consumed internally as of now). The plants have been set up closer to ports (for freight cost savings) and/or battery manufacturers/ industrial hubs (for easy customer access and lower distribution costs). Mentioned below is the detail of its key segments:

Exhibit 35: Details of key segments

Business Segment	Details
Lead recycling	GIL commenced its lead recycling operations in 1994 from Jaipur (Rajasthan). Currently, it is the largest domestic merchant lead recycler with a domestic capacity of around 171kte (~74% of total capacity) and overseas capacity of ~61kte (~26% of total capacity). In FY24, GIL derived >85% of its revenue and ~83-85% of profit from the lead segment.
Aluminium Recycling	GIL commissioned its first aluminium alloy facility in CY16 in Jaipur with a capacity of ~6,000te. The capacity has gradually increased to ~30kte in FY24 and out of the total capacity overseas capacity is ~60%, which is mostly focused on African continent mainly due to lower scrap availability in the domestic market. Aluminium recycling division has contributed ~8% of the revenue in FY24, while its contribution in EBIT was ~5%.
Plastic recycling	GIL entered into plastic recycling in CY15 by converting plastic waste in PET flakes. Raw materials for plastics recycling are mainly sourced from the batteries used in the lead vertical and the institutional tie-ups with companies such as Asian Paints etc., which provide empty pails for recycling. Plastic division contributes ~2-3% of revenue and EBIT of the company. GIL has total plastic recycling capacity of ~24.3kte, with ~80% of the capacity based in India and while 20% capacity is in Ghana, Mozambique, Senegal and Tanzania in Africa.

Source: Company data, I-Sec research

Exhibit 36: Diversified revenue base



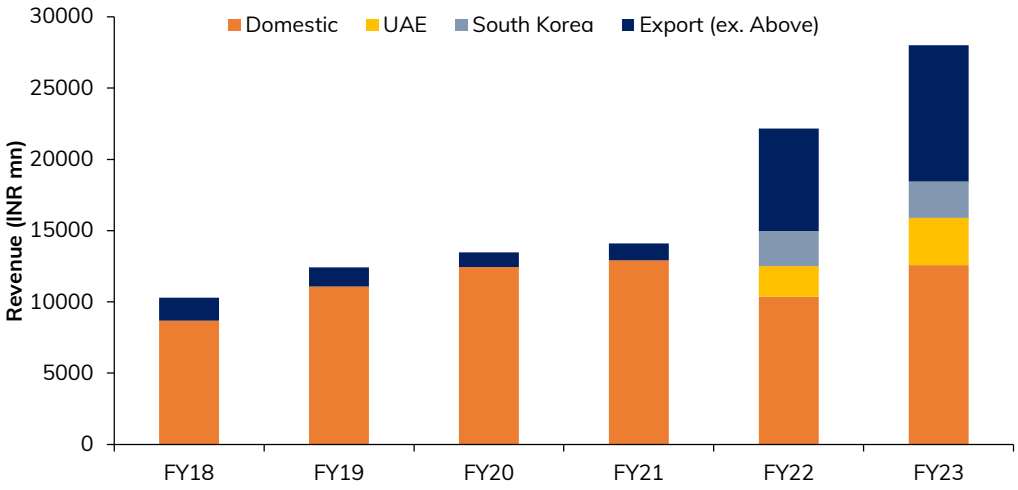
Source: I-Sec research, Company data

Exhibit 37: Global and pan-India operations

Source: I-Sec research, Company data

In FY24, exports have contributed ~47% of the overall revenue as against ~54% contributed in FY23.

Exhibit 38: Diversified geographical revenue base



Source: I-Sec research, Company data

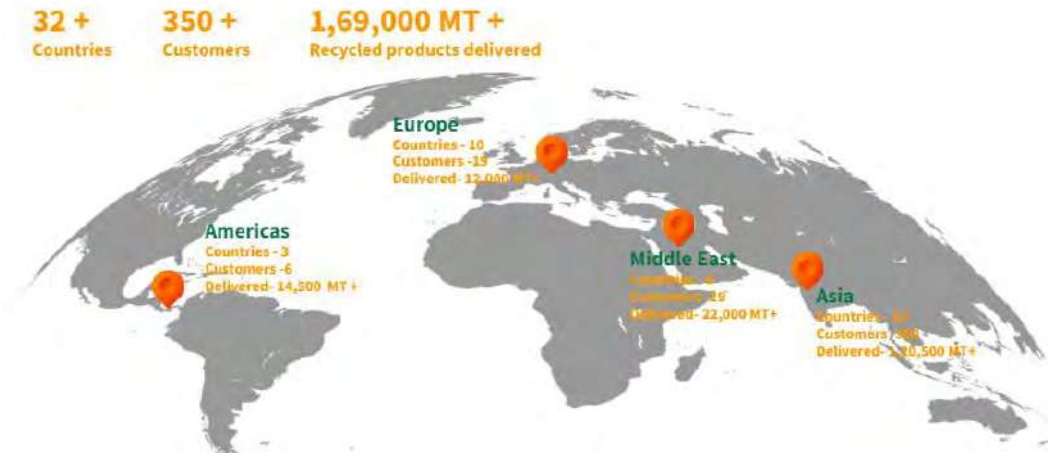
Exhibit 39: Key segmental numbers

(INR mn)	FY18	FY19	FY20	FY21	FY22	FY23	FY24
Lead							
Revenue	8,935	10,570	11,992	12,327	18,703	23,335	27,808
as a % of total revenue	86.8%	85.1%	89.0%	87.4%	84.4%	83.3%	88.0%
EBIT	699	590	918	916	1,733	2,097	2,753
as a % of total EBIT	87.4%	84.8%	95.4%	88.4%	79.1%	79.0%	84.8%
EBIT (%)	7.8%	5.6%	7.7%	7.4%	9.3%	9.0%	9.9%
Aluminium							
Revenue	919	1,127	805	952	2,068	3,388	2,549
as a % of total revenue	8.9%	9.1%	6.0%	6.8%	9.3%	12.1%	8.1%
EBIT	63	60	69	164	289	284	163
as a % of total EBIT	7.8%	8.6%	7.2%	15.8%	13.2%	10.7%	5.0%
EBIT (%)	6.8%	5.3%	8.6%	17.2%	14.0%	8.4%	6.4%
Plastic							
Revenue		503	564	774	1,314	1,045	780
as a % of total revenue		4.1%	4.2%	5.5%	5.9%	3.7%	2.5%
EBIT		(17)	(35)	(32)	178	150	117
as a % of total EBIT		-2.4%	-3.6%	-3.1%	8.1%	5.7%	3.6%
EBIT (%)		-3.3%	-6.1%	-4.1%	13.5%	14.4%	15.0%

Source: I-Sec research, Company data

Customer centric approach: As of FY24 end, GIL had a robust orderbook of 60,000te from various customers across the globe. In FY24, it had recycled more than 169kte of products and served more than 350 customers spread across 32 countries through its manufacturing sites. Domestically, it served more than 230 customers spread across 22 states through its five manufacturing locations.

Exhibit 40: A well-diversified global customer network



Source: I-Sec research, Company data

Procurement of lead scrap: The main raw materials used for production include used lead acid batteries (ULAB), other lead scrap, aluminium scrap and plastic scrap. These raw materials are mainly sourced from Asia, Middle East, Africa and Central America etc. GIL collects domestic scrap from various large corporate clients in India such as Airtel, Vodafone, Indus Tower, TCS, Nxtra Data, Sukam etc. It has entered into back-to-back buying of scrap from battery recycling companies like Amara Raja Batteries and HBL Power Systems and is selling recycled goods to them. Since GIL is a recycler, its major raw material is scrap. It annually collects >2,50,000te of scrap (Source: FY24 investor presentation). It owns 31 scrap yards and has 1,700+ touch points as of FY24 end.

Exhibit 41: Deep routed procurement network

	FY21	FY22	FY23	FY24
Touch points	1,400+	1,400+	1,500+	1,700+
Yards	27	29	27	31
Scrap collection	1,60,000	1,80,000	2,05,000	2,50,000

Source: I-Sec research, Company data

Exhibit 42: Deep routed procurement network

Source: I-Sec research, Company data

Exhibit 43: European network

Geographic wise	FY21	FY22	FY23	FY24
Europe				
Touch Points	20+	20+	15+	17+
Scrap collection	9,000+	7,000+	5,500+	3,200+

Source: I-Sec research, Company data

Exhibit 44: American (both North & South) network

Americas	FY21	FY22	FY23	FY24
Touch Points	80+	80+	75+	34+
Scrap collection	18,000+	13,000+	19,000+	28,500+
Yards	4	4		

Source: I-Sec research, Company data

Exhibit 45: African network

Africa	FY21	FY22	FY23	FY24
Touch Points	300+	300+	450+	660+
Scrap collection	33,000+	50,000+	62,000	96,000
Yards	22	24	26	26

Source: I-Sec research, Company data

Exhibit 46: Asian network

Asia	FY21	FY22	FY23	FY24
Touch Points	1,000+	1,000+	1,000+	1,000+
Scrap collection	1,00,000	1,10,000	1,18,500	1,23,000
Yards	1	1	1	5

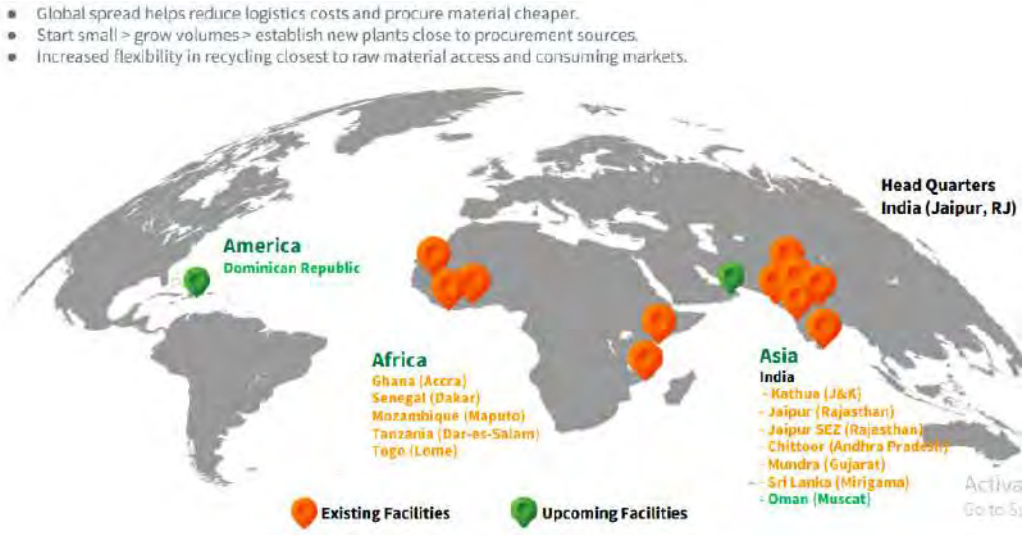
Source: I-Sec research, Company data

~50% of planned capex till FY27 to be incurred on overseas operations

The company has established track records of >2 decades of overseas operations. It commenced its first overseas plant in Sri Lanka. At present, GIL has 11 recycling plants (5 in India and 6 overseas) and overseas plants comprise ~1/3rd of total capacity as of FY24 end. Overseas plants are located in Sri Lanka (Mirigama export zone), Ghana (Accra), Mozambique (Maputo), Senegal (Dakar), Tanzania (Dar-es-Salam), Togo and Nicaragua (Managua). In overseas, lead recycling capacity is ~65.8kte, aluminium recycling capacity is ~18kte, rubber recycling capacity is ~9.3kte and plastic recycling capacity is ~4.8kte. Further, the company plans to expand its overseas capacity to ~178.3kte by FY27 end. In terms of capex (FY25-27), ~50% of the capex will be incurred on overseas capacity expansion.

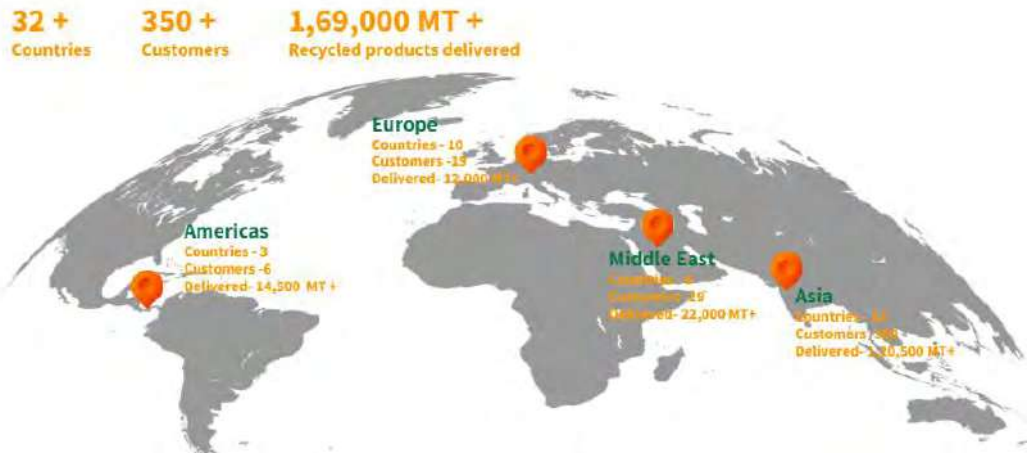
As per the annual report of FY23, overseas business contributed ~37% of its revenue, ~51% of its PAT and ~39% of total volume (increasing from ~34% in FY21). The details of overseas plants, customer base and key operating subsidiaries/associates etc. are mentioned below.

Exhibit 47: Details of overseas capacity



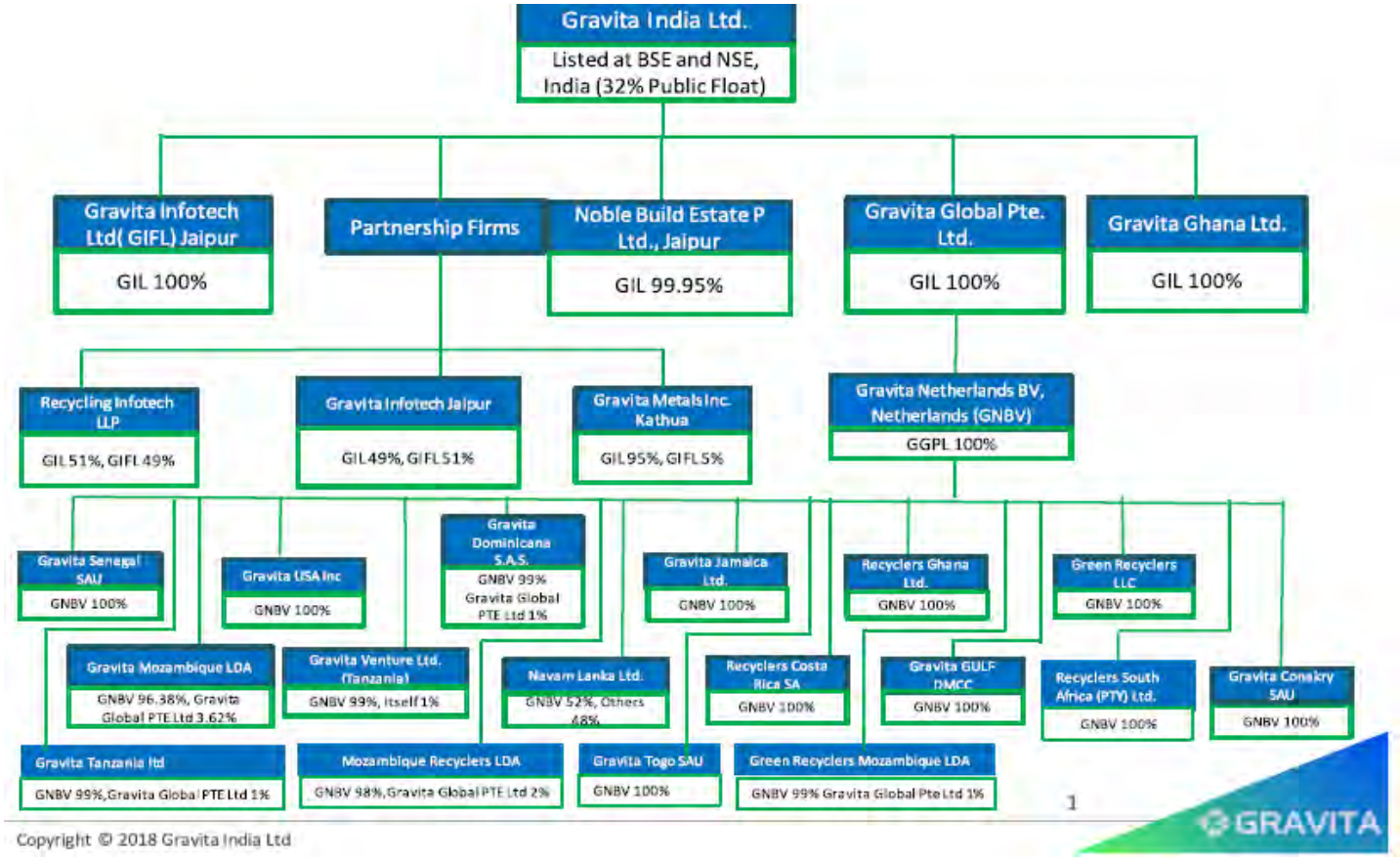
Source: Company data, I-Sec research

Exhibit 48: Details of overseas volumes



Source: Company data, I-Sec research

Exhibit 49: Organisation structure



Source: I-Sec research, Company data

Exhibit 50: Key financial numbers of subsidiaries

(INR mn)	Revenue			PBT			PAT			Total Assets			Total liabilities		
	FY21	FY22	FY23	FY21	FY22	FY23	FY21	FY22	FY23	FY21	FY22	FY23	FY21	FY22	FY23
Gravita Global Pte	0	0		-1	4	-1	-1	4	-1	97	102	103	1	1	1
Recyclers Ghana	138	279	385	42	333	460	42	333	460	746	1,345	1,389	675	948	652
Gravita Senegal SAU	54	85	123	63	190	151	54	161	131	234	503	1,000	40	154	502
Gravita Mozambique	65	75	119	122	16	114	103	14	88	674	622	738	187	225	228
Gravita Ventures				0	9	-0	0	9	-0	2	0	0	11	-	-
Gravita Mali SA				1	24	-0	1	24	-0	1	1	1	24	0	0
Gravita Nicaragua	40	72	34	-22	82	-43	-22	82	-43	153	167	12	181	113	12
Gravita Tanzania	77	178	214	89	243	135	89	243	135	424	544	706	246	118	116
Mozambique Recyclers	19	37	104	58	63	214	58	63	214	85	260	417	31	138	75
Gravita USA Inc	38	30	29	2	10	5	1	7	5	199	188	94	161	141	39
Gravita Jamaica	4	2	1	-64	-15	2	-64	-15	2	33	11	3	123	114	115
Recyclers Gravita Costa Rica	3	2		-1	-3	4	-1	-3	4	10	3	0	28	23	22
Gravita Netherlands BV		255	418	38	127	29	38	127	29	870	1,462	1,607	412	871	915
Gravita Dominican SAS				0	5	-	0	5	-	4	-	-	6	-	-
Gravita Peru SAC				-2	2	-	-2	2	-	0	0	-	2	-0	-
Green Recycler Mozambique				-	-	-	-	-		-	-	12	-	-	-
Gravita Ghana				1	5	1	1	4	1	12	15	12	3	4	4
Navam Lanka	55	68	36	105	219	80	91	189	62	252	315	202	64	95	13
Gravita TOGO				-	-	-8	-	-	-8	-	25	494	-	18	501
Recycling Infotech				-0	-0	-0	-0	-0	-0	0	0	0	0	0	0
Gravita Infotech				-0	-0	-0	-0	-0	-0	1	1	1	0	0	0
Gravita Metal	86	86	71	-18	-46	-2	-51	-43	-1	182	186	196	305	395	186
Gravita Infotech Ltd				-1	-3	-6	-1	-3	-4	26	22	17	2	1	0
Noble Buildestate				-3	19	3	-3	19	-0	21	20	0	40	20	0

Source: Company data, I-Sec research

Exhibit 51: Performance of subsidiaries/ associate companies and firms in FY23

Subsidiary	Performance
Gravita Mozambique LDA, Mozambique	This is a step-down subsidiary of the company and is engaged in the business of manufacturing of re-melted lead, PP granules and trading of aluminium scrap. In FY23, it produced 5,263te of re-melted lead and 410te of plastic granules. This subsidiary achieved turnover of INR 1.2bn and net profit of INR 88mn in FY23.
Gravita Senegal SAU, Senegal	This is a step-down subsidiary of the company and is engaged in the business of manufacturing of re-melted lead, PP granules and trading of aluminium ingots. In FY23, this plant produced 5,924te of re-melted lead ingots, 978te of aluminium ingots and 289te of plastic granules, and achieved a turnover of INR 1.2bn and net profit of INR 131.2mn.
Navam Lanka Ltd, Sri Lanka:	This is a step-down subsidiary operating in Sri Lanka for more than a decade. It is the largest producer of refined lead ingots and PP chips in Sri Lanka. This subsidiary is engaged in recycling of lead acid battery scrap for producing refined lead ingots. In FY23, it had produced 1,975te of lead ingots and re-melted lead ingots and achieved a total turnover of INR 356.5mn and net profit of INR 62.3mn.
Gravita Tanzania Limited, Tanzania	This is a step-down subsidiary and is engaged in manufacturing of re-melted lead and aluminium. In FY23, it produced 6,470te of lead and 4,162te of aluminium and achieved turnover of INR 2.1bn and net profit of INR 134.9mn.
Recyclers Ghana Limited, Ghana	This is step-down subsidiary and is engaged in manufacturing of refined lead, lead alloys, plastic granules and trading of aluminium scrap. In FY23, it produced 16,273te of lead and 434te of plastic granules and achieved turnover of INR 3.85bn and net profit INR 460.2mn.
Mozambique Recyclers LDA, Mozambique	This is a step-down subsidiary and is engaged in manufacturing and recycling of aluminium. In FY23, it produced 3,062te of aluminium ingots and achieved turnover of INR 1bn and net profit of INR 213.8mn.
Gravita Togo SAU, Togo	In FY23, it produced 1,237te of aluminium ingots and achieved turnover of INR 177.8mn and incurred a net loss of INR 8.4mn.
Gravita Nicaragua S.A., Nicaragua	It is engaged in recycling of plastic waste and trading of battery scrap. In FY23, this subsidiary produced 2,907te of plastic and achieved turnover of INR 334.8mn and incurred a net loss of INR 43.3mn.
Gravita Jamaica Limited, Jamaica	This subsidiary is engaged in recycling of plastic waste. In FY23, it achieved turnover of INR 14.1mn and incurred a net loss of INR 1.5mn.
Recyclers Gravita Costa Rica SA, Costa Rica	This subsidiary is engaged in trading of plastic waste. In FY23, this subsidiary achieved net profit of INR 3.8mn.
Gravita Netherlands B.V., Netherlands	This subsidiary is engaged in trading business. In FY23, this subsidiary achieved turnover of INR 4.2bn and profit of INR 28.5mn.
Gravita USA Inc, USA	This subsidiary is engaged in trading of lead, aluminium and plastic. In FY23, it achieved turnover of INR 291.6mn and net profit of INR 4.6mn.
Gravita Global Pte. Ltd, Singapore	This subsidiary is based in Singapore and is engaged in trading business. In FY23, this subsidiary incurred net loss of INR 0.8mn.
Gravita Ghana Limited, Ghana	It is a wholly-owned subsidiary of the company. The subsidiary is engaged in recycling and trading of lead acid battery scrap for producing re-melted lead ingots, PP chips etc. In FY23, this plant achieved a net profit of INR 1.4mn.
Gravita Ventures Limited, Tanzania	This is a step-down subsidiary of the company and is engaged in trading of aluminium scrap. In FY23, this subsidiary incurred net loss of INR 0.6mn.
M/s Gravita Metal Inc, India	GIL along with its wholly-owned subsidiary the company holds 100% stake in this partnership firm. This firm is engaged in manufacturing of lead ingots and all kinds of specific lead alloys. In FY23, it produced 3,166te of lead, achieved a turnover of INR 705.3mn and incurred a net loss of INR 1.2mn.
Gravita Infotech Limited, India	It is a wholly-owned subsidiary of the company. In FY23, it incurred net loss of INR 4.2mn.
M/s Gravita Infotech, India	GIL together with its subsidiary holds 100% stake in this firm. This firm is engaged in business of information technology. In FY23, the firm incurred net loss of INR 0.1mn.
M/s Recycling Infotech LLP, India	GIL together with its subsidiary holds 100% stake in this LLP. Recycling Infotech LLP is engaged in business related to e-marketing database collection etc. The LLP has incurred net loss of INR 1mn.

Source: I-Sec research, Company data

Business segments

Lead recycling

GIL commenced its lead recycling operations in 1994 from Jaipur (Rajasthan). Currently, it is the largest domestic merchant lead recycler with a domestic capacity of around 171kte (~74% of total capacity) and overseas capacity of ~61kte (~74% of total capacity). GIL has presence in all the three largest scrap generating regions of India—North, West and South. In terms of total capacity, the Western region has the largest domestic share of 38%. The company has close proximity to battery OEM plants—its Chittoor recycling plant is near Amara Raja facilities while Kathua recycling plant is near Luminous facilities. The Mundra plant, being port based, saves inbound logistics costs for scrap imports and exports of recycled lead ingots. Key products of lead segment include: Pure lead and alloys, lead sheet, lead bricks, red lead, lead powder, lead wool and lead anode (refer Annexure 1 for details). In FY24, GIL derived >85% of its revenue and 83-84% of profit from lead segment. Lead is the fully hedged segment of the company (hedging policy mentioned on page 11), which has led to stable margins of 8-10% during FY21-23.

Exhibit 52: Lead capacities of the company

Location	Country	Capacity (TPA)	% Capacity	Indian vs overseas
Chittoor	India	64,640	27.90%	73.70%
Jaipur	India	35,319	15.30%	
Kathua	India	6,000	2.60%	
Mundra	India	64,800	28.00%	
Togo	Togo	6,000	2.60%	26.30%
Ghana	Ghana	21,000	9.10%	
Senegal	Senegal	9,300	4.00%	
Mozambique	Mozambique	8,500	3.70%	
Tanzania	Tanzania	7,000	3.00%	
Sri Lanka	Sri Lanka	9,000	3.90%	

Source: I-Sec research, Company data

Lead capacity expansion: Total lead capacity of the company was ~237kte as on FY24 end, which is expected to increase to ~350kte by FY27E.

Lead scarp sourcing: The company has three main scrap streams for lead procurement which include: i) Tolling business from battery OEMs (~20%), ii) lead scrap from domestic institutional clients (~30%) and iii) import of scrap from other geographies (~50%). As of FY24 end, GIL has 31 scrap yard, 1,700+ touch points and annual scrap collection of ~250kte. Apart from Asia, majority of scrap comes from the African region.

Process: GIL carries out smelting of lead battery scrap/lead concentrate to produce secondary lead metal, which is further transformed into pure lead, specific lead alloy, lead oxides (lead sub-oxide, red lead, and litharge) and lead products like lead sheets, lead powder, lead shot etc. As a thumb rule, one ton of battery scrap yields 0.6 ton of lead. Major cost heads include logistics-freight, power and fuel, employee cost and repair & maintenance.

Exhibit 53: Lead recycling process

Source: I-Sec research, Company data

Exhibit 54: Deep routed scrap collection centres

	FY21	FY22	FY23	FY24
Touch points	1,400+	1,400+	1,500+	1,700+
Yards	27	29	27	31
Scrap collection	1,60,000	1,80,000	2,05,000	2,50,000

Source: I-Sec research, Company data

Financials: Currently, lead contributes >80% of company's revenue and EBITDA. GIL's revenue has grown by ~21.2% CAGR (FY18-FY23), while EBIT has grown by 24.6% CAGR. Its lead production has grown by ~18.7% CAGR (FY18-FY23) while capacity grew by 5.6% CAGR (FY18-23).

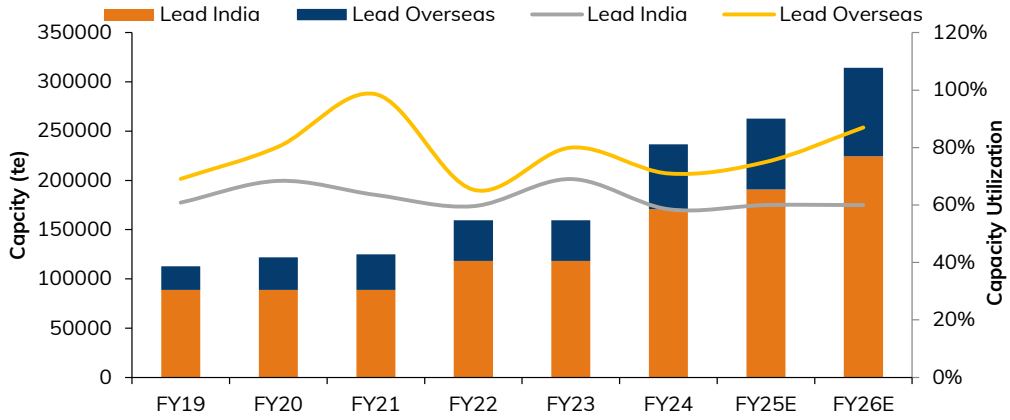
Exhibit 55: Key financial indicators (KFIs) of lead vertical

Lead	FY18	FY19	FY20	FY21	FY22	FY23	FY24	CAGR (FY19-24)
Capacity (Kte)	131.8	112.8	121.8	121.8	159.5	173.1	236.6	16.0%
Production (Kte)	54.6	64.8	76.2	81.3	113.2	128.7	143.2	17.2%
YoY +/-		18.90%	17.50%	6.70%	39.20%	13.70%	11.3%	
Revenue (INR mn)	8,935	10,570	11,992	12,327	18,703	23,335	27,808	21.3%
Revenue/te	1,63,790	1,63,012	1,57,343	1,51,650	1,65,289	1,81,370	1,94,218	
YoY +/-		-0.50%	-3.50%	-3.60%	9.00%	9.70%	7.1%	
EBIT (INR mn)	699	590	918	916	1,733	2,097	2,753	36.1%
EBIT margins	*7.80%*	*5.60%*	*7.70%*	*7.40%*	*9.30%*	*9.00%*	*9.9%*	
EBIT/te	*12,810*	*9,099*	*12,048*	*11,273*	*15,311*	*16,299*	*19,224*	

Source: I-Sec research, Company data

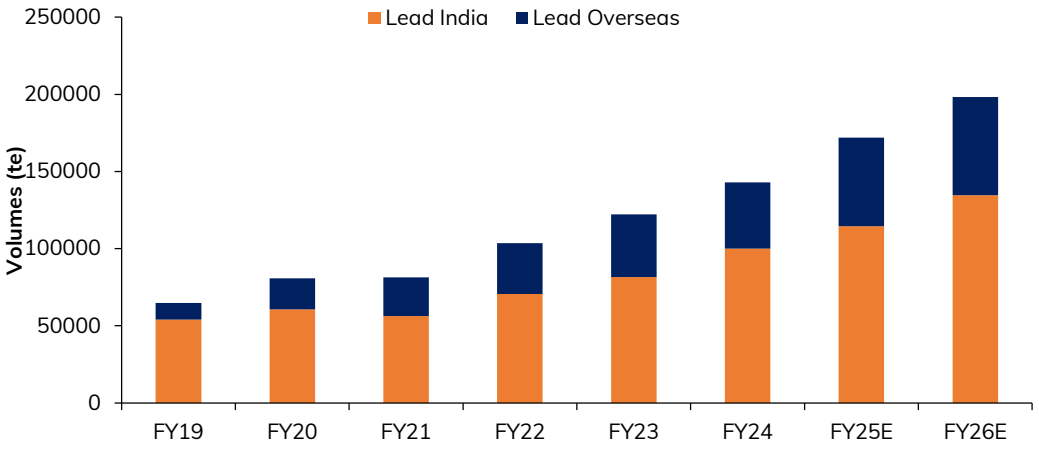
Comments on margins: The volatility in average realisation/te is mainly based on volatile LME prices. EBIT margins have improved over the years and have been stable since last 3-4 years because of hedging. EBIT/te has improved to ~INR 15,500-17,000/te range. The average EBITDA/te of the lead segment in FY24 was ~INR 20,290 (INR 19,029 in FY23).

Exhibit 56: Lead capacities and capacity utilisation



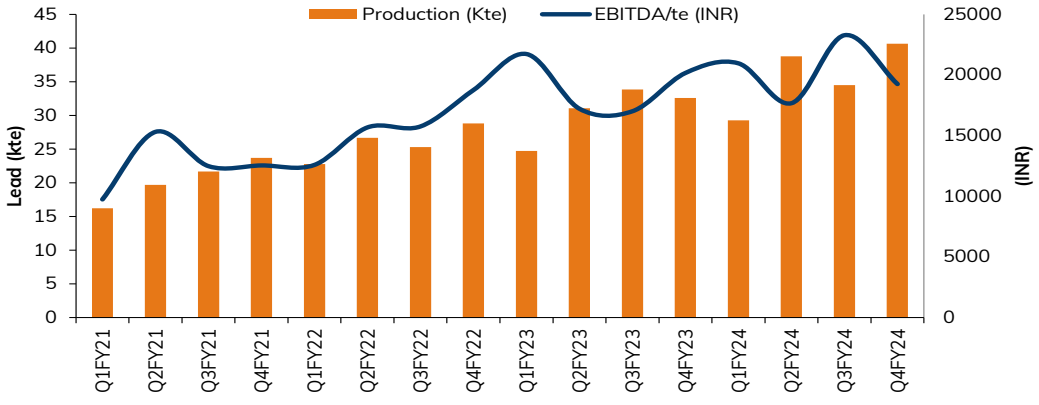
Source: Company data, I-Sec research

Exhibit 57: Lead sales volumes



Source: I-Sec research, Company data

Exhibit 58: Lead quarterly production and EBITDA/te



Source: Company data, I-Sec research

Industry size: Global lead usage is ~17.4mnte (mined production is ~4.5mnte+ recycling production is ~ 12.8mnte). China is the largest recycler with market share of ~44%. The Indian lead market size is ~1.25mnte (primary: 0.22mnte and secondary: ~1.02mnte). In India, Hindustan Zinc is the largest primary producer, while recycled/secondary lead industry is largely unorganised (>65% of the industry). Other large players in secondary lead recycling include Pondy Oxides, NILE and Pilot Industries.

Exhibit 59: Global primary vs secondary capacities

(Kte)	CY19	CY20	CY21	CY22	CY23
Primary production	4,697	4,441	4,540	4,448	4,499
Secondary production	12,589	12,301	12,718	12,506	12,853
Total	**17,286**	**16,742**	**17,258**	**16,954**	**17,352**

Source: I-Sec research

Growth outlook: Management expects 18-20% growth in lead business in the near term, and targets to bring down overall contribution of lead business to <75% of revenue by FY27.

Aluminium recycling

GIL commissioned its first aluminium alloy facility in CY16 in Jaipur with a capacity of ~6,000te. The capacity has gradually increased to ~30kte in FY24 and out of the total capacity overseas capacity is ~60% which is mostly focused on African continent, mainly due to lower scrap availability in the domestic market. The company primarily makes aluminium alloys, which is being sold to OEMs. The company is one of the leading manufacturers and exporters of aluminium alloy ingots for gravity (GDC), pressure (PDC), low pressure (LPDC), and sand die-casting. The capacity utilisation of Indian plant is lower as compared to overseas plant due to lower scarp availability. Its products find applications in: i) Pressure die casting components for automotive, ii) consumer durables and iii) electricals industries.

Exhibit 60: Aluminium recycling process

Source: I-Sec research, Company data

Exhibit 61: KFIs aluminium segment

Aluminium (INR mn)	FY19	FY20	FY21	FY22	FY23	FY24
Revenue	1,127	805	952	2,068	3,388	2,549
as a % of total revenue	8.9%	9.1%	6.0%	6.8%	9.3%	8.1%
EBIT	60	69	164	289	284	163
as a % of total EBIT	8.6%	7.2%	15.8%	13.2%	10.7%	5.0%
EBIT margin (%)	5.3%	8.6%	17.2%	14.0%	8.4%	6.4%

Source: Company data, I-Sec research

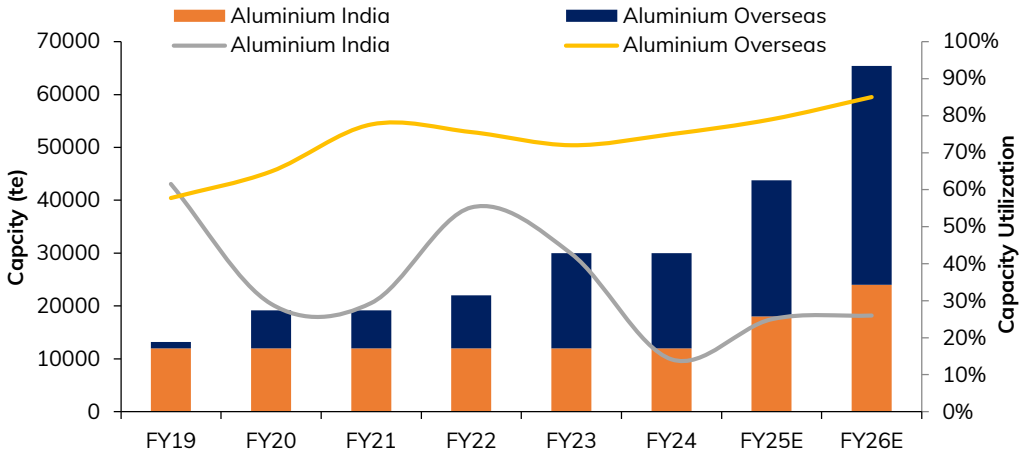
Exhibit 62: Aluminium plant and capacities

Country	Capacity (TPA)	% Capacity	India vs overseas
Jaipur – India	12,000	40%	40%
Togo	4,000	13%	60%
Senegal	4,000	13%	
Mozambique	4,000	13%	
Tanzania	6,000	20%	
Total	**30,000**		

Source: Company data, I-Sec research

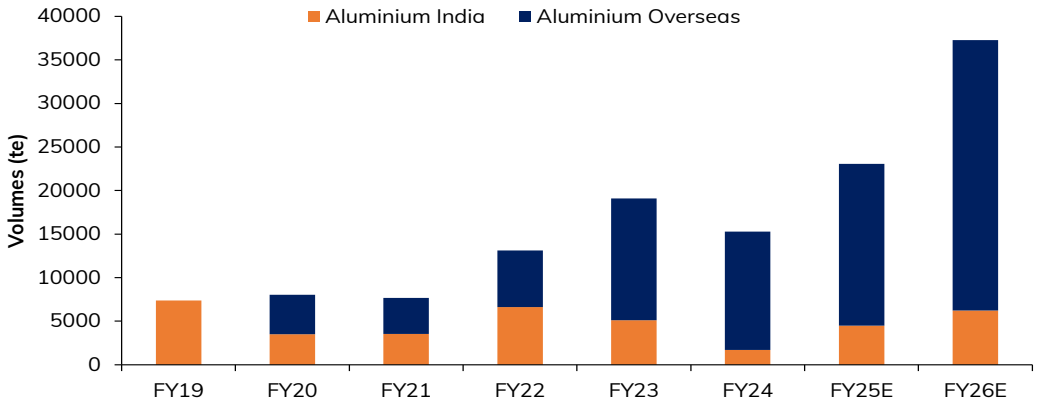
Aluminium recycling division has contributed ~8% of the revenue in FY24, while its EBIT contribution is ~5%. The revenue of this segment has grown by ~17.7% CAGR (FY19-FY24). GIL plans to double its capacity from ~30kte currently to ~73.2kte by FY27-end. The average CU in this segment during FY20-23 was ~40%; however, it is expected to increase to >60% once the hedging instrument is activated in this segment.

Exhibit 63: Aluminium capacity and utilisation



Source: Company data, I-Sec research

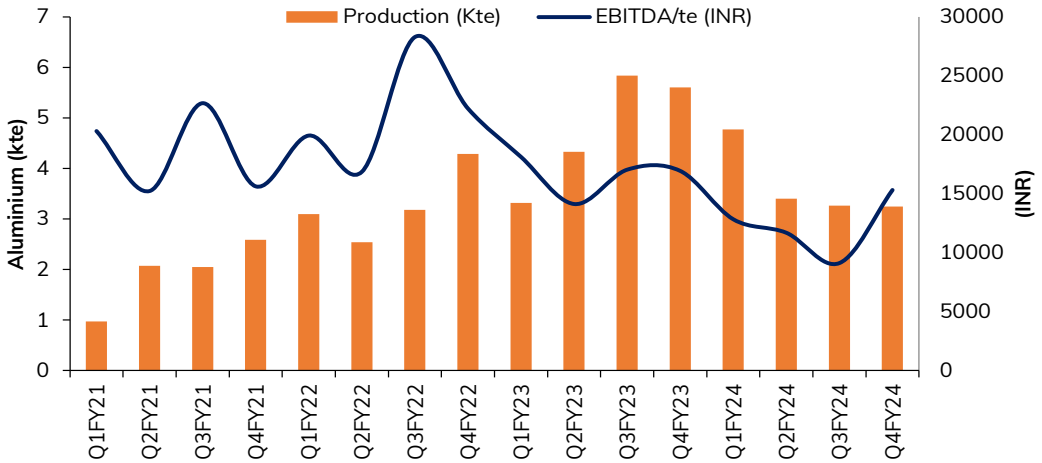
Exhibit 64: >85% revenue is contributed by overseas plants



Source: Company data, I-Sec research

The EBITDA/te of the company had declined to INR 9,110 in Q3FY24, but had increased to INR 15,308 in Q4FY24. The average EBITDA/te in FY24 was INR 12,230/te (vs INR 16,500 in FY23), as the company is not fully hedged. The price volatility in aluminium impacts EBITDA/te and volumes. GIL has been exploring the opportunity to hedge this business to avoid any price fluctuation.

Exhibit 65: Aluminium quarterly production and EBITDA/te

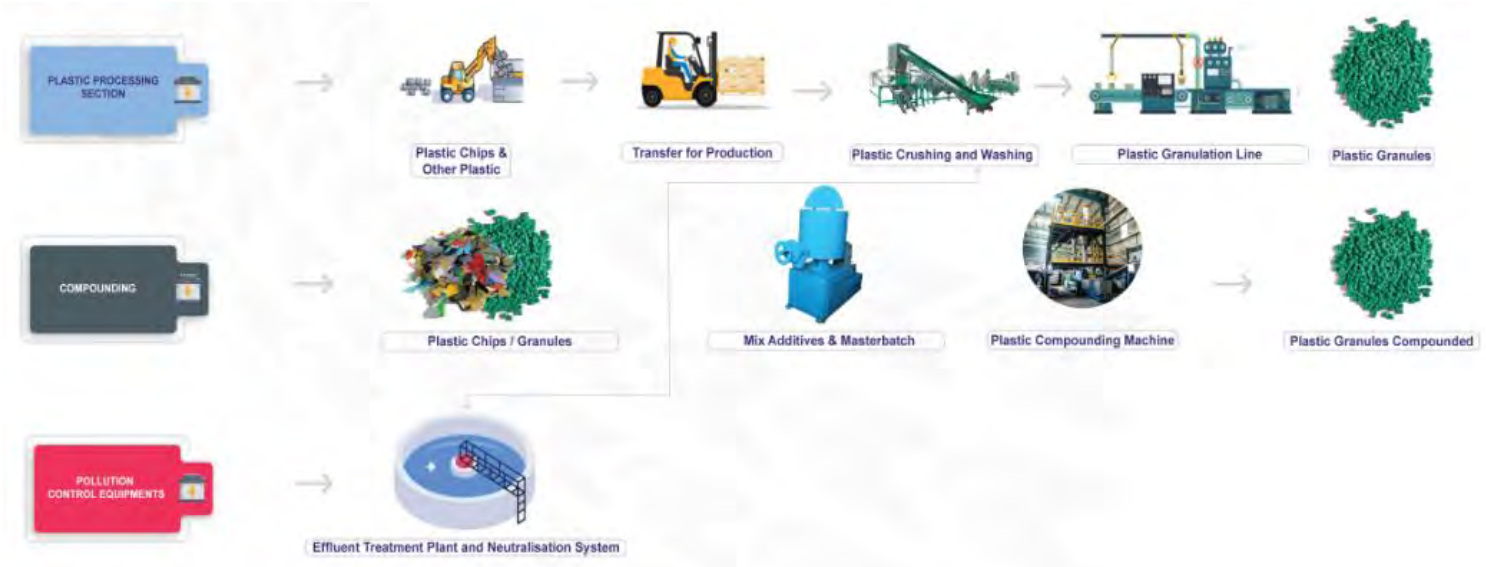


Source: I-Sec research, Company data

Plastic recycling

The company entered into plastic recycling in CY15 by converting plastic waste in PET flakes. Raw materials for plastics recycling are mainly sourced from the batteries used in the lead vertical and the institutional tie-ups with companies such as Asian Paints etc., which provide empty pails for recycling. It processes plastic to recycled polypropylene (PPCP) granules. PPCP granules are manufactured using battery boxes, paint buckets, oil canes, and chairs etc. These plastics are sold in the form of granules to end-users. These are used extensively as raw materials in various end-use applications, such as packaging, building materials and textiles. Plastic division contributes ~2-3% of revenue and 4-5% of the EBIT of the company.

Exhibit 66: Plastic recycling process



Source: I-Sec research, Company data

Exhibit 67: KFIs plastic segment

Plastic (INR mn)	FY19	FY20	FY21	FY22	FY23	FY24
Revenue	503	564	774	1,314	1,045	780
as a % of total revenue	4.1%	4.2%	5.5%	5.9%	3.7%	2.5%
EBIT	(17)	(35)	(32)	178	150	117
as a % of total EBIT	-2.4%	-3.6%	-3.1%	8.1%	5.7%	3.6%
EBIT margin (%)	-3.3%	-6.1%	-4.1%	13.5%	14.4%	15.0%

Source: Company data, I-Sec research

GIL has total plastic recycling capacity of ~24.3kte of which ~80% of the capacity is based in India and 20% is in Ghana, Mozambique, Senegal and Tanzania in Africa. Earlier, GIL used to make r-PET granules at its Nicaragua facility, however, it has sold stake in the subsidiary in Apr' 23 due to lack of any scaling opportunity.

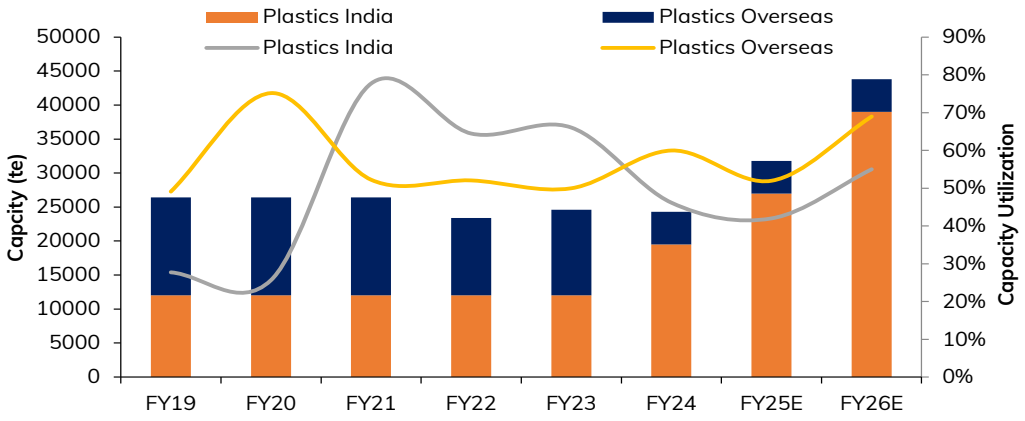
Exhibit 68: Plastic recycling capacity

Location	Country	Capacity (TPA)	% Capacity	India vs overseas
Chittoor	India	6,000	25%	80%
Phagi, Jaipur	India	6,000	25%	
Mundra, GJ	India	7,500	31%	
Ghana	Ghana	1,200	5%	20%
Senegal	Senegal	900	4%	
Mozambique	Mozambique	900	4%	
Tanzania	Tanzania	1,800	7%	
Total		**24,300**		

Source: I-Sec research, Company data

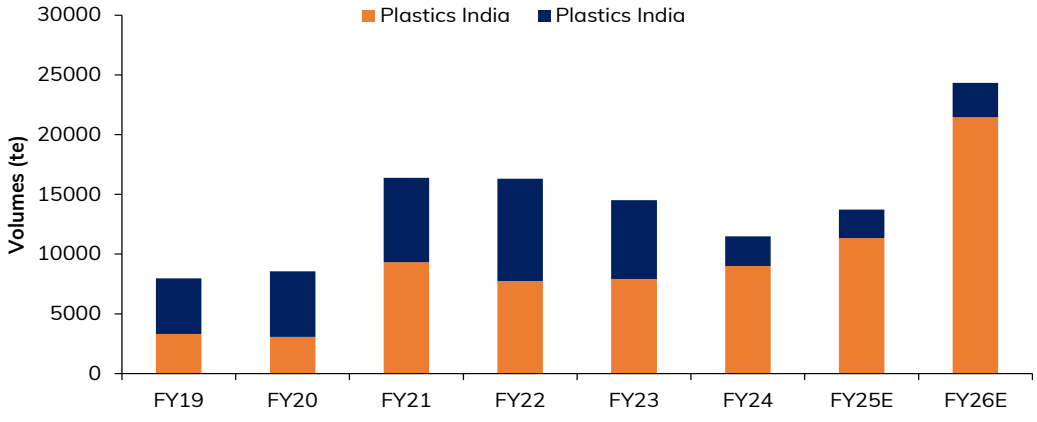
Plastic recycling division had contributed ~2-3% of the revenue in FY24, with contribution in EBIT at ~5%. The revenue of this segment has grown by ~6.8% CAGR (FY19-FY24E). GIL plans to 2.4x increase its capacity from ~24.3kte currently to ~57.6kte by FY27 end. The average CU in this segment was ~50% FY19-FY24.

Exhibit 69: Plastic capacity and utilisation



Source: I-Sec research, Company data

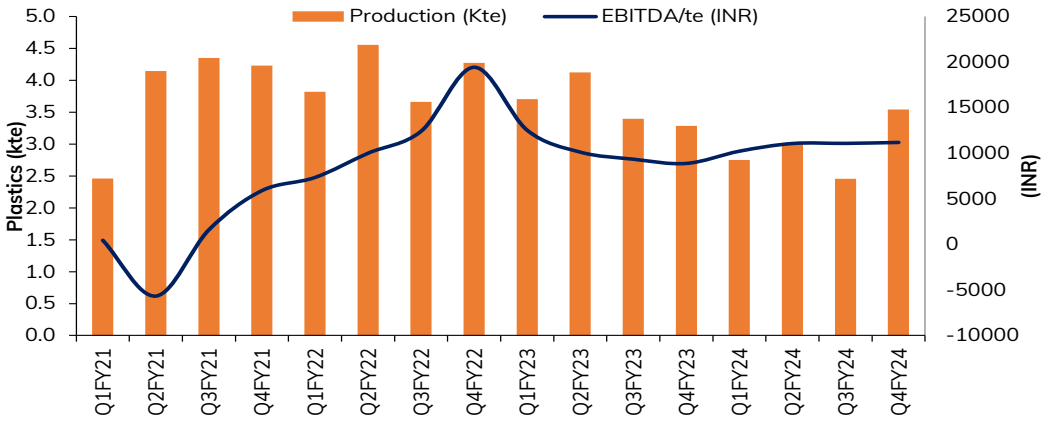
Exhibit 70: Domestic capacity contributes >80% of sales



Source: I-Sec research, Company data

The EBITDA/te of the company has been largely stable at INR 10,900+ FY24 (vs INR 10,260/te in FY23) in the last 10-12 quarters.

Exhibit 71: Plastics quarterly production and EBITDA/te



Source: I-Sec research, Company data

Turnkey solutions

The company offers eco-friendly lead battery recycling technology/ turnkey solutions to new entrepreneurs. It also offers turnkey solutions for aluminium, plastic, rubber & copper recycling. It has successfully executed over 50 recycling projects worldwide, including in Qatar, UAE, Saudi Arabia, Poland and Chile. Its proprietary recycling technology has been developed in-house, and has been proven to be highly effective and economical. The company's technology and deep processing knowledge separates it from various competitors. The division acts as backward integration for the company, supplying machinery for its own plants, thereby, reducing cycle time and costs. The division also serves as an in-house research centre for improving efficiencies, achieving better yields for scrap and making the whole recycling process less resource intensive. The operating margin of this segment is expected to ~25% in the near term.

Industry section

Lead application and global lead industry overview (as per company annual report)

What is lead? Lead is a type of heavy metal with several useful mechanical properties such as low melting point, high density, ductility and relative inertness. It is a chemical element and has a highest atomic number of any steady element. Lead is flexible and soft. When newly cut, lead is bluish-white and gets tarnishes to a dull grey colour when exposed to air.

Lead has very good demand mainly due to i) increasing usage of lead products for architectural metals for gutters and gutter joints, roofing materials and on roof parapets, ii) cost effective and reliable power supply across various critical applications counting hospital, commercial facilities and industries, iii) increasing demand for lead-acid batteries for automotive application and iv) constant expansion of building infrastructure and commercial facilities.

Global lead production and consumption overview

The global lead proven resource is estimated to be ~2bnte (Source: USGS) with reserves at ~85mnte. Australia has the largest reserves of lead, amounting to ~37mnte in 2022 (~43%-44% of global reserves) followed by China, Russia, Peru, Mexico, USA and India (Source: Statista). By the means of end usage, >85% of lead is consumed in batteries.

Global demand-supply and inventory: Global demand for refined lead metal rose by ~1% in CY23, with increases in Europe, China, India, Mexico and Taiwan (China) being largely offset by falls in the Republic of Korea, Türkiye and the United States. Global demand for refined lead metal was ~12.76mnte in CY23 and it is expected to increase to 13.08mnte in 2024. Global supply was ~12.85mnte in CY23 (~12.5mnte in CY22). As per the preliminary data compiled by the ILZSG, in CY23, global supply of refined lead metal exceeded demand by ~92kt. The combined inventories reported by the LME, SHFE, producers, merchants and consumers rose by ~123kt and totalled 447kt at CY23 end.

Primary and secondary route of production: The output of refined lead metal from secondary (recycled) raw material accounted for ~66% of global production in CY23.

India lead recycling industry

India has a growing lead recycling industry, with several facilities dedicated to the recycling of lead-acid batteries. The demand for lead in India is met by primary and secondary sources, with recycling industry playing a significant role. The global metal scrap recycling market is worth over USD 500bn, wherein India's share is USD 11bn (~2.2%) (Source: Business world). There are about 500 authorised recyclers of lead wastes in India with a total recycling capacity of around ~1mnte (Source: Battery News).

Global demand forecast

Global demand for refined lead metal rose by ~1% to ~12.76mnte in CY23, with increases in Europe, China, India, Mexico and Taiwan (China) being largely offset by falls in the Republic of Korea, Türkiye and the United States. **Demand is expected to increase to 13.08mnte in 2024.** After falling by ~3% in 2022, European lead demand increased by ~5.5% in CY23 (highest among other regions).

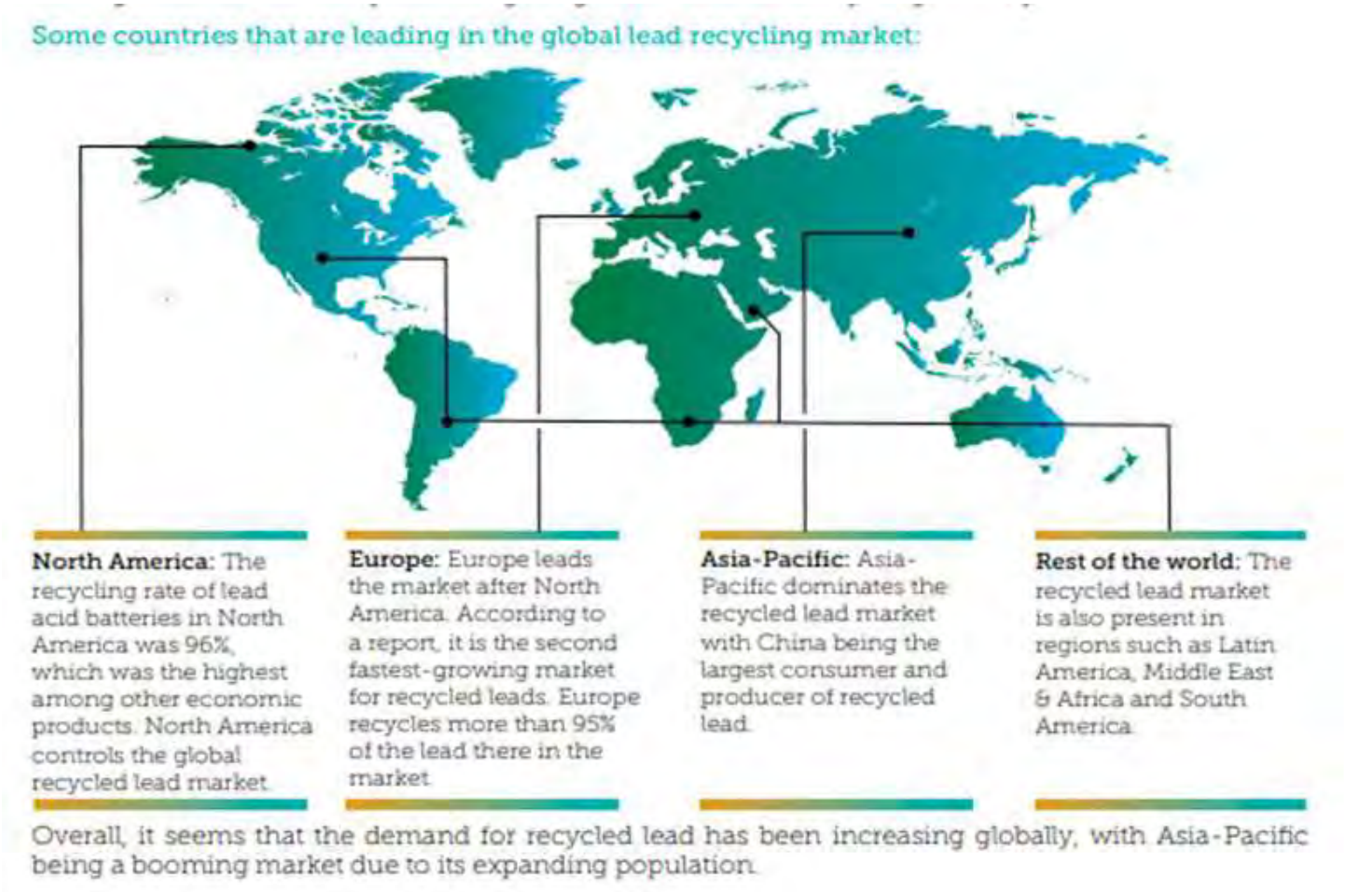
- Chinese demand is expected to increase by ~2.4% in 2024 and apart from China, demand is expected to increase in India, Japan and the Republic of Korea.

- Chinese net imports of lead contained in lead concentrates rose by 15% to total 666kt in 2023. Net exports of refined lead metal rose by 61% to 183kt.

Global supply forecast

- **Global supply of refined lead was ~12.85mnte in CY23 (~12.5mnte in CY22) and is expected to rise to 13.14mnte in 2024.** The mined lead supplied was 4.5mnte (~1/3rd of lead total supply) and is expected to increase to 4.71mnte in CY24. The output of refined lead metal from secondary (recycled) raw material accounted for ~66% of global production in 2023.
- The expected rise in global supply in 2024 will be driven mainly by an increase in the supply from Australia, Bulgaria, India, the Russian Federation and Bosnia & Herzegovina. The supply is expected to decline from Canada and UAE .

Exhibit 72: Countries leading the global lead recycling market



Source: I-Sec research, Company data

Exhibit 73: Mined production of lead

Mine Production (kte)	CY19	CY20	CY21	CY22	CY23
Europe	501	473	448	451	429
Mexico	259	260	272	273	241
Peru	308	242	264	255	273
United States	270	306	294	272	261
China	2006	1942	1964	1946	1960
India	200	206	217	220	227
Australia	501	494	488	417	458
Other Countries	651	518	592	614	650
World Ex China Total	2691	2499	2575	2502	2539
World Total	**4697**	**4441**	**4540**	**4448**	**4499**

Source: I-Sec research, ILZSG

Exhibit 74: Refined production of lead

Refined Production (kte)	CY19	CY20	CY21	CY22	CY23
Europe	2017	1917	2031	1777	1786
Canada	260	189	203	182	191
Mexico	447	410	420	419	431
United States	1167	1151	975	960	954
China	5099	5204	5448	5471	5687
India	922	818	923	966	1022
Japan	237	237	247	295	278
Kazakhstan	131	133	121	121	114
Korea Rep	800	770	790	760	744
Australia	125	155	164	131	185
Other Countries	1384	1318	1396	1423	1461
World Ex China Tota	7491	7097	7270	7035	7166
World Total	**12589**	**12301**	**12718**	**12506**	**12853**

Source: I-Sec research, ILZSG

Exhibit 75: Refined usage of lead

Refined Usage (kte)	CY19	CY20	CY21	CY22	CY23
Europe	1987	1804	1853	1798	1897
United States	1643	1516	1567	1586	1465
China	5143	5215	5309	5351	5461
India	887	803	866	908	937
Japan	252	217	263	305	300
Korea Rep	612	610	674	608	547
Other Countries	2067	1974	2126	2085	2153
World Ex China Total	7447	6924	7350	7289	7300
World Total	**12591**	**12139**	**12659**	**12640**	**12761**

Source: ILZSG, I-Sec research

Exhibit 76: Primary vs secondary production of lead

(Kte)	CY19	CY20	CY21	CY22	CY23
Primary production	4697	4441	4540	4448	4499
Secondary production	12589	12301	12718	12506	12853
Total	**17286**	**16742**	**17258**	**16954**	**17352**

Source: I-Sec research, ILZSG

Exhibit 77: Lead stock

Reported Metal Stocks (End of Year) (Kte)	CY19	CY20	CY21	CY22	CY23
Producers	155	154	152	156	156
Consumers	110	110	105	107	104
Merchants	1	2	1	1	1
L.M.E.	66	133	54	25	134
SHFE	45	46	86	35	53
Total	**376**	**445**	**398**	**324**	**447**

Source: I-Sec research, ILZSG

Opportunities for the growth of lead recycling industry

The increasing demand for batteries from electric vehicles and energy storage systems is anticipated to augment market growth.

- Lead is the only metal that can be recycled several times without having any diminishing impact on its quality. As a result, the production of secondary (recycled) lead is increasing over primary, which is anticipated to have a positive impact on market growth.
- Recycling lead used in batteries improves the utilisation of the metal, reduces greenhouse gas emissions, and conserves natural resources.
- Recycling lead helps reduce the amount of toxic waste produced while also lowering the demand for new lead materials. This helps preserve natural resources and reduce the impact of lead production on the environment.

Challenges faced by lead recycling industry

- Manpower and supply-chain challenges, exacerbated by the pandemic, have made it harder for smaller operators to keep up.
- The global metal recycling industry is growing at an unprecedented rate due to factors such as urbanisation, spread of industrialisation, concerns over resource depletion, and environmental awareness. However, this growth also brings challenges such as increased competition and the need for digitalisation to improve efficiency.

Global lead acid battery industry (as per company annual report)

A lead acid battery refers to a cost-effective rechargeable energy storage device, which includes an anode as the positive and a cathode as the negative terminal. It is further connected by the electrolyte to produce electricity through electrochemical reactions. The battery contains toxic lead metal, which can be recycled and prepared for reuse in other products. Apart from this, it involves oxide and grid production, pasting, curing, assembling, formation, filling, charge discharge proceedings, inspection, and product dispatching as standard processes.

Currently, lead acid battery is commercially available in varying sizes and types, including flooded and sealed. Due to superior cranking power and skyrocketing demand for sophisticated automotive technology, the SLI category is seeing a cyclical demand increase. In the winter, major regions such as North America and Europe are subjected to extreme weather conditions, necessitating the use of a power supply system with high cranking performance. Low cost and operational reliability are two most important characteristics that encourage people to use SLI batteries over other options. Furthermore, as telecom industry expands in nations like the US, Brazil, India, and the UK, there is a growing demand for UPS systems as a backup power source, resulting in higher usage of lead-acid batteries as a cost-effective energy source. Growing demand for e-bikes and electric vehicles, cheaper repair and repair costs and a reduction in reliance on traditional fuel technologies are some of the primary factors recognised as drivers of the worldwide lead-acid battery market.

Global market size: The global lead acid battery market size reached USD 33.0bn in 2022 and is expected to reach USD 41.5bn by 2028, exhibiting a growth rate (CAGR) of 4% during 2023-2028 (Source: IMARC).

Major growth drivers (as per company annual report)

Asia-Pacific to emerge as the indisputable leader; India and China to play key role
Asian countries are the largest consumers of backup power supply devices like inverters and generators which use lead-acid batteries to operate. Asia-Pacific is projected to lead the global lead acid battery market with India and China acting as the major regional growth propellers. China is currently the largest manufacturer and supplier of lead acid batteries and is constantly registering a number of strategic tie-ups with other small and large-scale companies operating in the segment to enter new markets. Growth in India is anticipated to be led by the growing need for constant power supply as the country rapidly moves towards higher industrialisation.

Usage in renewal energy industry: As per the IEA, renewables are expected to have the fastest growth in electricity sector, catering to ~30% of the power demand in 2023, up from ~24% in 2017. During this period, renewables are estimated to contribute to more than 70% of the global electricity generation. This growth would be led by solar (both photovoltaics and ground mount modules) followed by wind, hydropower and bioenergy. Hydropower, however, remains the largest renewable source, catering to about 16% of the global electricity demand by 2023, followed by wind catering to a further 6%, solar photovoltaics (PV) (4%), and bioenergy (3%). In developing regions such as India, renewal energy generation target of 500GW of installed renewable energy by 2030, which includes the installation of 280GW of solar power and 140GW of wind power (Source: Times of India). Thus, with the growing generation, the need for energy storage would also increase significantly as lead acid batteries are installed in generation grid. At the same time, these batteries are also installed at substations where the power generated is fed into the main grid. Thus, with the increase in generation, implementation of these batteries is also expected to increase significantly.

Data centre segment: Data centre sub-segment is expected to be the largest contributor to lead acid battery market, by industrial segment. The lead acid battery market is sub-segmented, by industrial, into data centres, telecom, oil & gas, and others. Others in the industrial segment include construction, metals & mining, chemical & pharmaceutical, and food & beverage industries. Regions such as Asia Pacific is focusing on increasing the number of data centres installed across the countries due to the growth in IT sector. Lead acid batteries are expected to be used as a backup power solution in these data centres owing to their functionality across a wide temperature range.

India lead acid battery industry

The India lead-acid battery market is segmented by application, including SLI (start, light, and ignition) batteries, industrial batteries, and other applications. Growing automotive industry and renewable sector coupled with rapid urbanisation and increasing government focus towards promoting use of electric vehicles to fuel India lead acid battery market through 2023 and beyond.

India's lead acid battery market is projected to cross USD 7.6bn by 2023, on account of growing automotive and telecommunication sectors in the country coupled with the government's 'Make in India' initiative. Moreover, increase in budget allocation by the Government of India on Smart City projects and various other housing projects such as AMRUT Yojana and Pradhan Mantri Awas Yojana (PMAY), government's mandate to use hybrid energy in the huge and growing telecommunication sector and growing investments in power transmission and distribution sector are expected to stimulate demand for lead acid batteries in coming years across the country.

Aluminium & aluminium recycling industry (as per company annual report)

Application and global aluminium industry overview

Aluminium is the third most abundant element in the earth's crust, finding its implementation in many sectors due to its environment and user-friendly nature. It is used in building and construction (B&C), power sector, automotive, packaging, household appliances etc. Aluminium is the second most used metal in the world after steel. The surge in the demand of this youngest metal of the non-ferrous metal industry is indicated by the escalating infrastructural development of various nations. The global aluminium market is projected to grow from USD 168.84bn in 2022 to USD 255.91bn by 2029, at a CAGR of 6.1%. (Source: Fortune Business Insights).

Indian aluminium market: Its annual consumption in India at 2.5 kg per capita is much below the global average of 11 kg per capita. Rise in infrastructure development and automotive production are encouraging development in metals and mining sector in India. India has nearly 10% of the world's bauxite reserves and a growing aluminium sector that leverages this. Demand in domestic market is expected to rise by ~8-10% in FY22-27. Solid long-term demand fundamentals and expectation of healthy operating margins, despite some moderation in FY25, will spur domestic aluminium makers to spend ~ INR 700bn over the next five years through 2027 to expand capacity. The domestic market is likely to witness more robust growth of 6-7% in the near term, and 4-5% over medium term.

Increasing popularity of secondary aluminium to aid market growth: Aluminium can be recycled into various different products such as car bodies and tractor-trailers. However, aluminium cans generally develop into new cans of the same metal. Additionally, recycling secondary aluminium does not reduce the metal quality, and thus it can be recycled indefinitely. The continuous demand for such cans results in the increasing metal demand. Recycling can save natural resources and energy and reduces the pressure on landfill sites. Making new cans from recycled metal saves ~95% of the energy used to make cans from bauxite ore. The production of recycled metal requires only ~5% of the energy required to produce new aluminium metal. In addition, any scraps left during the production process can be melted down and reused over and over again. As a result, approximately 75% of all aluminium metal produced is still in use today. Moreover, the rising emphasis on consuming sustainably sourced products is expected to further drive metal recycling operations and is likely to boost the market growth of aluminium in the world.

Implementation of stricter environmental regulations to hamper market growth
Many countries across the globe have had to adopt new regulations as a result of expanding environmental-related problems and increasing public expectations for government action to reduce the level of pollution. The implementation of such stringent environmental regulations by governments and associations is expected to limit market growth. Moreover, rising environmental issues and increasing expectations from the citizens towards improving the rising pollution levels have forced several countries to incorporate a new set of rules. The cost of goods has increased due to smelting operations required to meet higher emission requirements. Additionally, in the past decade, consumers have become increasingly aware and concerned about environmental health.

Aluminium recycling industry

As per CRISIL report, total aluminium (primary and secondary) demand in India in FY22 stood at ~3.9mnte, logging a CAGR of 4-5% over FY15-FY22. The demand for secondary aluminium in India grew at a CAGR of 9-11% from FY15-FY22, while primary aluminium demand registered a CAGR of 1-2% only. Demand for primary and secondary aluminium is estimated at 2.25mnte and 1.66mnte, respectively, in FY22. The demand for secondary aluminium is primarily led by demand from the auto sector. Rising demand from packaging, consumer durables and construction sectors also led to increased demand. Due to better cost dynamics, the share of secondary aluminium in aggregate aluminium market in India rose to 42-43% as of FY22 from 29-30% in FY15.

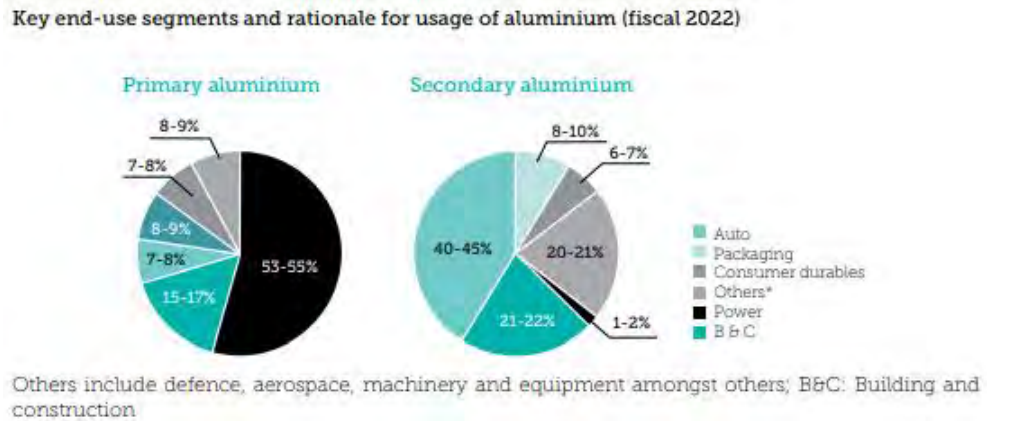
Key advantage of secondary aluminium

Less capital intensity: Manufacturing of aluminium through primary route involves bauxite mining, bauxite refining, smelting of alumina, etc. These activities are capital as well as energy intensive. Setting up of a green-field refinery and smelter of a minimum economic size (typically a refinery of 1mnte and a smelter of ~0.5mnte) with a captive power plant requires an investment of ~INR 220-240bn. As against this, the recycled route involves sorting and segregating scrap, melting of scrap, re-alloying, and casting into ingots. This process is carried out at a cost considerably lower than that of primary aluminium owing to lower energy requirements. Moreover, setting up of a fully mechanised recycling unit of 1mnte capacity would typically involve an investment of INR 15-20bn.

Low cost of production compared to primary aluminium: One of the major advantages of recycling is low production cost as against manufacturing through the primary route. This low cost is attributed to significantly lower energy requirements (~90-95% of energy savings in case of secondary aluminium production as per International Aluminium Institute (IAI)) for recycling than the primary route. Also, pre-existence of required alloyed elements in aluminium scrap further reduces alloying costs.

Perpetual recyclability: The inherent quality of aluminium is not affected irrespective of the number of times it is recycled. The other key characteristics that drive the demand for secondary aluminium are its perpetual recyclability, with an advantage of pre-existence of desired properties (as it is pre-alloyed specific to end-use requirement when in scrap form). Scrap availability: Aluminium scrap is estimated to be available in abundance globally, which further results in increased recycling of aluminium for key end-use products.

Exhibit 78: Key end users for primary and secondary aluminium



Source: CRISIL research

There is a healthy demand for non-ferrous castings from the automotive sector, which consumes 40- 45% of secondary aluminium in India. Further, demand from building & construction sector, which consumes 21-22% of overall secondary aluminium, has also increased with rising penetration of recycled extrusions, especially in window frames. The packaging segment too witnessed faster growth (for secondary) during the years, largely as a result of healthy growth in key underlying industries such as food products, beverages and pharmaceuticals.

Demand forecast: Total secondary aluminium demand is expected to increase at a CAGR of 6-7% to reach 2.2-2.3mnte by FY27, from 1.66mnte demand in FY22. The growth will primarily be on account of: i) Rising demand growth from auto sector, ii) increasing scrap generation, iii) increase in demand due to an expected increase in infrastructure spending while the key threats include: a) competition from the fragmented market and b) heavy reliance on scrap imports.

Plastic and plastic recycling industry (as per company annual report)

Application and global plastic industry overview

Plastics refer to polymeric materials made from synthetic or semi-synthetic organic compounds that are malleable and can be moulded into desired shapes using heat and pressure. The commonly used plastics include polyethylene (PE), polypropylene (PP), polyvinyl chloride (PVC), and liquid crystal polymers. Plastics are widely used for manufacturing bags, cups, cases, bottles, food wraps, tableware, wire insulations, and non-stick surfaces. They are cost-effective, lightweight, and durable and offer corrosion resistance, high thermal and electrical insulation, and inertness to biological materials. As a result, plastics find extensive applications across the packaging, construction, agriculture, automotive, electronics, healthcare, and textile industries.

Global market size: The global plastics market size reached USD 615.2bn in 2022 and is expected to reach USD 747.9bn by 2028, exhibiting a growth rate (CAGR) of 3.18% during 2023-2028 (Source: IMARC).

Indian plastic market size: In India, plastics industry is currently home to about 50,000 industries, most of which are micro, small, and medium-sized enterprises (MSMEs). These enterprises contribute ~INR 3.5trn (US$ 42.89bn). In India, plastic recycling rate is ~60%, which is higher than that of developed nations. The 'Make in India,' 'Skill India,' 'Swachh Bharat,' and 'Digital India' initiatives of the government are increasing plastic production, and by 2027, it is expected that plastics industry will generate INR 10trn (USD 122.54bn) worth of annual revenue, with 200kte of exports (Source: IBEF).

Plastic recycling industry: Recycled plastics are made from post-consumer or post-industrial plastics instead of virgin resin. The process of recycling used plastic from consumable products is an efficient means to reprocess the material into useful products. Many different products make great sources of recyclable material, which include: i) Soda bottles, ii) plastic packaging, iii) sheets and iv) pellets. Recycled plastic is used to make many different products. The type of product that is made out of recycled plastic depends on the type of plastic resin. There are several different types of plastic resin used to make different products such as PET, PP, HDPE and LDPE.

Global market size: The global plastic recycling market size was valued at USD 44bn in 2022 and is forecasted to grow to USD 65bn by 2029 at a CAGR of 5.6% during 2022-2029. China is the largest market, with a share over 40%, followed by North America and Europe, both have a share ~35% (Source: Market Watch).

Indian market size: During FY21, India's recycled plastics market grew to 8.9mnte. It is anticipated to grow at a CAGR of 11.30% (FY23-FY28), reaching 18.50mnte (Source: Market Research and IMARC).

Key growth drivers of the market: With rising concerns over the excessive usage of plastics, there is an increasing demand for alternatives to conventional plastics. Due to rapid innovation and introduction of new products, manufacturers have shifted towards using recycled plastics since they reduce the carbon footprint used in the manufacturing process. Increasing usage of consumer electronics has driven the demand for recycled plastics in electronics and packaging applications.

Key deterrents to the growth of the market: Virgin plastics are used in various applications, including the packaging of food to produce automotive components. They are superior to their recycled alternatives in terms of quality. The high cost of recycled plastics to end-user than conventional plastics has also hindered the market's growth.

Peer comparison

Exhibit 79: Profile of key peers/players

Player name	Profile
NILE	NILE is a certified secondary manufacturer of pure lead and lead alloys that are supplied to the manufacturers of lead acid batteries, PVC stabilisers and lead-oxide which contribute a major chunk to the revenue. Apart from this, the company also deals in power generation through windfarms.
Pondy Oxides & Chemical	POCL is the secondary lead manufacturer in India, along with, aluminium, copper alloys, and plastics. The company's products are used in a variety of industrial sectors, including batteries, construction, and electronics. Its production units are strategically located; Sriperumbudur and Harsha Exito facility are in the Thiruvallur district (Tamil Nadu), near the Chennai Port and Chittoor in Andhra Pradesh that is near the Amara Raja plant. The company's core product is lead and lead alloys, which are mainly used in making lead-acid batteries. The company has smelting facilities and can manufacture various types of lead metal, lead alloys and other nonferrous metals.

Source: I-Sec research, Company data

GIL has enjoyed better performance compared to peers

GIL's revenue grew by ~22.5% CAGR, EBITDA grew by 35.4% CAGR and PAT grew by 80.1% CAGR over the past four years, outpacing its listed peers' growth in the lead recycling space.

Exhibit 80: Revenue growth of key players in recycling space

Revenue (INR mn)	FY19	FY20	FY21	FY22	FY23	CAGR (%)
Gravita	12,417	13,478	14,097	22,159	28,006	22.5%
Nile	5,708	5,927	5,364	7,025	8,063	9.0%
Pondy	10,489	12,199	10,043	14,548	14,717	8.8%

Source: I-Sec research, Company data

Exhibit 81: Also, recorded the highest EBITDA growth among peers

EBITDA	FY19	FY20	FY21	FY22	FY23	CAGR (%)
Gravita	587	975	1,119	2,109	1,976	35.4%
Nile	271	214	248	399	359	7.2%
Pondy	643	355	234	772	784	5.1%

Source: I-Sec research, Company data

Exhibit 82: Best in class EBITDA margins

EBITDA %	FY19	FY20	FY21	FY22	FY23
Gravita	4.7%	7.2%	7.9%	9.5%	7.1%
Nile	2.2%	1.6%	1.8%	1.8%	1.3%
Pondy	5.2%	2.6%	1.7%	3.5%	2.8%

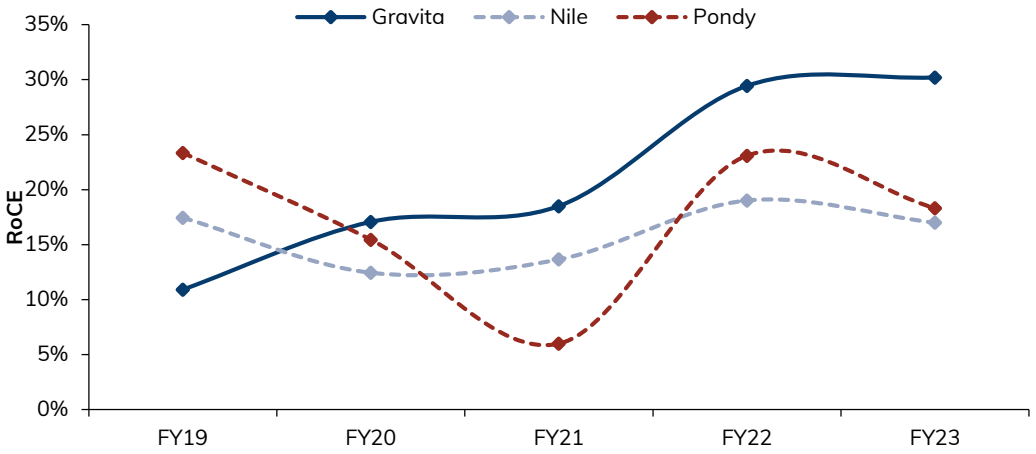
Source: I-Sec research, Company data

Exhibit 83: Impressive PAT growth over the past four years

PAT	FY19	FY20	FY21	FY22	FY23	CAGR (%)
Gravita	194	418	568	1,485	2,041	80.1%
Nile	125	109	138	241	227	16.0%
Pondy	337	163	108	482	492	9.9%

Source: I-Sec research, Company data

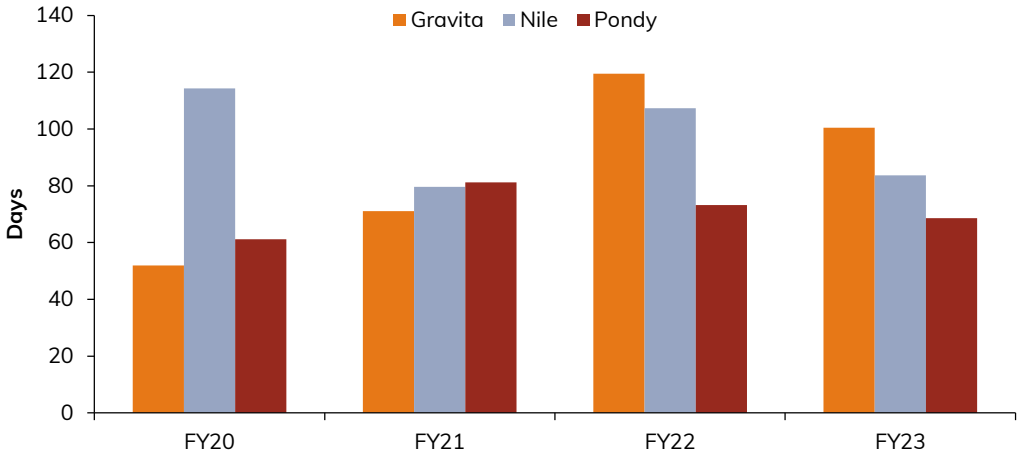
Exhibit 84: Better RoCE profile of GIL compared to peers



Source: I-Sec research, Company data

GIL's working capital days has increased significantly post FY20, and it remains higher as compared to key players like Nile and Pondy. However, going forward, we expect WC days to come down to 75 days in medium term compared to 110 days (currently) as the company focuses on improving inventory and receivable days.

Exhibit 85: Working capital days of peers



Source: I-Sec research, Company data

Valuation: We value GIL at INR 1,150/share

GIL is by far the market leader in domestic recycling space. Its peers are much smaller and thinly traded with no coverage, hence, we do not have trading multiples for peers. On trailing P/E multiple, GIL has traded at premium owing to better earnings growth and returns.

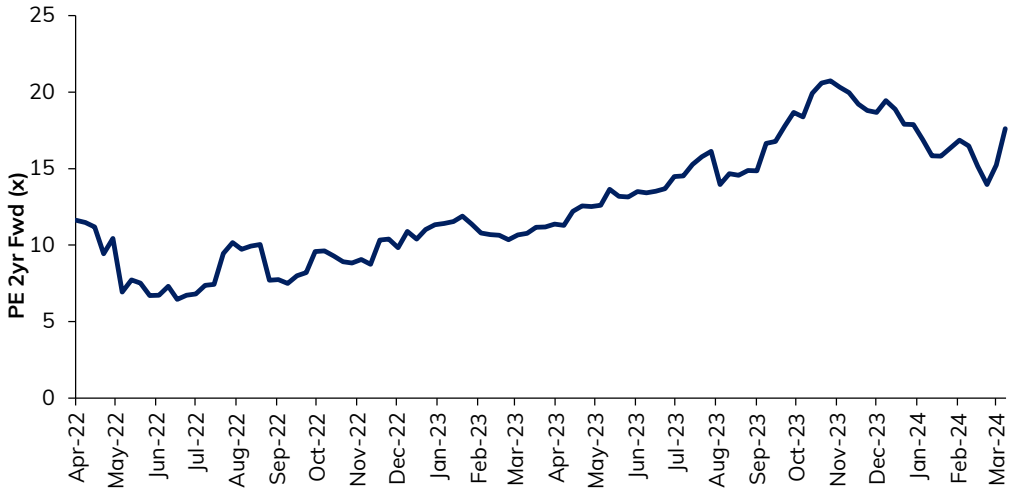
Exhibit 86: Valuation comparison of peers (trailing multiples)

PE (x)	FY20	FY21	FY22	FY23
Gravitas	**6.9**	**11.7**	**15.4**	**16.3**
Avg	23.5	11.6	27.6	17.4
Max	40.6	23.5	49.6	25.8
Min	6.9	6.7	10.9	11.5
Nile	**4.6**	**6.5**	**6.9**	**6.2**
Avg	5.9	7.5	11.4	6.9
Max	8.4	11.0	15.1	10.5
Min	3.6	4.6	6.6	4.6
Pondy	**4.5**	**11.0**	**8.2**	**4.6**
Avg	4.1	7.0	22.7	8.9
Max	7.2	11.0	39.4	15.7
Min	2.2	4.4	8.2	4.6

Source: Bloomberg, I-Sec research

In case of GIL as well, we consider the past one year trading history due to limited coverage on the stock prior to that.

Exhibit 87: GIL's 2 year- fwd P/E chart



Source: Bloomberg, I-Sec research

We value GIL on P/E methodology to ward off the volatility in reported EBITDA as hedging losses are booking as Other Expenses (above EBITDA) while gains are booked as Other Income. In our view, the back to back hedging policy of the company is operational in nature, and hence, EPS neutralises the impact of hedging gains/losses. Furthermore, its margins have remained stable since Jun'19 (since the implementation of hedging policy on inventory), spreads are largely stable in nature and linked to LME prices, and there is a little leverage risk as debt is progressively reducing, Besides, the company is expected to generate free cash through to FY26 despite upping the capex.

Taking cognisance of the growth from the capex incurred until FY26 only visible from FY27, we factor in a P/E multiple, corresponding to two deviations above mean. As a result, we ascribe 21x FY26E EPS. Our TP works out to INR 1,150, implying 26% upside from the CMP.

Exhibit 88: We value GIL at INR 1,150/share on P/E methodology

P/E	
EPS- FY26 (INR)	54.9
Multiple	21.0
Fair value (INR)	1,150

Source: I-Sec research

On alternate methodology of EV/EBITDA, we value GIL at two deviations above mean – 15x, considering the growth prospects. Our TP works out to INR 1,147, quite close to our primary methodology of EV/EBITDA.

Exhibit 89: Valuation of GIL on EV/EBITDA methodology

EV/EBITDA	
EBITDA- FY26 (INR mn)	5,422
Multiple	15
EV (INRmn)	81,332
Net debt (INR mn)	3,575
Market Cap (INR mn)	77,757
Number of shares	68
Fair Value (INR)	1,147

Source: I-Sec research

Key risks

Unfavourable changes in government regulations/policies

The government policies and regulations play an important role in the recycling business. The recently announced BWMR-2022 rules are likely to provide an advantage to organised players over unorganised. However, the enforcement and compliance with these regulations are crucial for market share gains in organised recycling. Any weaker-than-anticipated compliance could impact growth projections.

Previously, the unfavourable duty structure had led to closure of one of its plants in Jaipur when **import duty on scrap was hiked to ~30% while for finished lead, it was kept low at 5%, following the Basel Convention.** That said, the geographical diversity insulates the company from the regulatory changes in a particular location.

Slower than expected ramp-up of new capacities

Management plans to increase the GIL's capacity by 1.7x by FY27 with capex of >INR 6.5bn (FY25-FY27). Any slower than expected ramp up of these capacities could impact the return metrics for the company. Further, despite having existing recycling divisions (lead, aluminium, plastics, and rubber), GIL plans to enter new recycling segments, including paper, copper, li-ion batteries, and steel, may face hurdles and it may not turn out as favourable as envisaged earlier. However, the equipment is designed, erected and commissioned by the turnkey division, hence the project execution risk is minimised.

Exposure to geopolitical risk

Overseas business had contributed >50% of GIL's PAT in FY23, and GIL has 6 overseas plants, mostly in Africa region and Sri Lanka which exposes it to potential disadvantages in the event of any political unrest (and these countries have history of political unrest). Its Africa business has significantly increased in the past couple of years with the commencement of new plants and expansion of existing capacities. Also, any volatility in geopolitical relations can have a significant impact on the business.

To mitigate the risk, Gravita has structured its overseas ventures as subsidiaries of its Netherlands-based holding company. Management anticipates that overseas operations will be independent of Indian operations in terms of capital expenditure and working capital requirements following the approval of ESG loan from European DFIs. However, the possibility of operational disruption in a specific territory due to geopolitical events cannot be discounted, though overall impact on the financials is likely to be low.

Stiff competition from both unorganised and organised players

The domestic lead recycling industry is intensely competitive with the presence of many unorganised players (currently >65% of market share), as products are low-value additive in nature. Intense competition exerts pricing pressure on the company. However, the company is more focused on value-added products to offset the same However, GIL is a multi-locational player, and has an established scrap sourcing network which gives it an edge and competitive advantage over other players.

Price fluctuation of commodities

Commodity business is cyclical in nature and may impact the profitability. GIL's revenue is determined by commodity prices, as recycled metals are typically priced based on established commodity benchmarks such as LME lead. However, as a converter business and its back-to back hedging in the lead recycling, EBITDA margin of the company has become stable post FY19. Though, GIL does not have any hedging in place for other segments, in the case of aluminium business, it is in discussion with MCX for hedging arrangement, which is expected to complete by the end of Q1FY25.

Quicker adoption of lithium-ion batteries (LIB) in autos

A major portion of GIL's revenue (~80-85%) comes from lead and its derivatives. Lead's predominant usage is from auto/industrial lead acid batteries (LAB). Disadvantage of LAB is lower energy density, which the newer battery chemistries such as LIBs are far more efficient, thus expected to replace LABs across applications, including telecom, data centres, automotive (including non-motive use cases) in the next couple of years. That said, the company has already started focusing on the recycling of lithium-ion batteries and the ecosystem is expected to be the same.

OEMs backward integrating battery recycling

As India implements EPR in Battery Waste Management Rules (BWMR), battery OEMs may opt for further backward integration to recycle their batteries and meet their EPR obligations. This could decrease the amount of domestically available scrap for merchant recycling players like Gravita etc. For e.g. Amara Raja has recently unveiled plans to establish a 150ktpa battery recycling plant in Tamil Nadu, anticipated to cover around 25-30% of its lead demand. However, the competitive edge of Gravita lies in logistical efficiencies owing to the location of its plants. This serves as a formidable competitive moat and any new entrant is likely to invest lot of time and capital in replicating the same.

ESG concerns

The exposure to lead toxins generated during the recycling process, leading to soil leaching, has detrimental effects on human health. As a result, there is a growing trend towards regulating the lead recycling process to mitigate lead pollution. Environmental apprehensions regarding pollution from lead recycling processes subject the sector to regulatory scrutiny and potential adverse policy actions. However, this is mainly due to unorganized sorting and segregation. GIL has proper policies and governance system in place. In fact, the shift from informal to formal sector is likely to aid the company.

Board profile, Board structure, related-party transaction and shareholding pattern

- Gravita has 28+ years of average management experience in diversified industries with an average management association of 16 years.
- It has 650+ employees including 200+ professionally qualified (CAs, MBAs and Engineers). Further, the average employee age is ~36 years.
- 50% of Board comprises Independent Directors and three Board committees (out of six) have independent director as Chairperson.
- Shareholding of promoters has declined from ~73% in FY23 end to ~66.5% in FY24 end.

Exhibit 90: Board profile

Name & Designation	Description	Directorship
Dr. MP Agarwal Chairman	Dr. MP Agarwal completed his M.B.B.S. in 1956 and M.D. in General Medicine. Dr. Agarwal dedicated over three decades to public service, working in the Department of Medical & Health, Government of Rajasthan. Driven by a passion for business and innovation, he embarked on a journey in lead manufacturing and trading alongside his technocrat son, amassing invaluable experience of over 30 years in the non-ferrous metals industry.	Karvrish Resources Pvt Ltd Saurabh Farms Ltd Gravita Energy Ltd Shah Buildcon Pvt Ltd Gravita Infotech Ltd Jalousies (India) Pvt Ltd Karvrish Assets Pvt Ltd
Mr. Rajat Agarwal Founder & MD	Mr. Rajat Agarwal completed his B.E. in Mechanical Engineering from MNIT and an OPM from Harvard Business School. Since the company's inception in 1992, he has been at the forefront, driving Gravita to become the top player in India's recycling industry and achieve remarkable global success, with an experience of over 30 years in the Industry.	Gravita Impex Pvt Ltd Shah Buildcon Pvt Ltd Jalousies (India) Pvt Ltd Karvrish Resources Pvt Ltd Karvrish Assets Pvt Ltd Karvrish Infrastructure Pvt Ltd Gravita Infotech Ltd Nature Living Developers Pvt Ltd Karvrish Buildcon Pvt Ltd Gravita Infra Pvt Ltd Gravita Energy Ltd Saurabh Farms Ltd Devonic Ventures Pvt Ltd
Mr. Yogesh Malhotra Whole Time Director & CEO	Mr. Malhotra has >30 years of experience and expertise in global markets with a career spanning top national and multinational organisations such as Bluestar, Castrol, and Eurochem. He holds a B.E. (Mechanical) degree from MNIT, Jaipur, and an MBA from NUS, Singapore, that form the foundation of his extensive practical knowledge.	Nature Living Developers Pvt Ltd Noble Buildstate Pvt Ltd
Mr. Naveen Prakash Sharma Executive Director	Mr. Sharma has >30 years of experience in metals and mining industry. Before joining Gravita in 2006, he has worked with Hindalco Industries Limited, Pennar Aluminium, and Finolex Cables. He holds a B.E. in Metallurgy from MNIT, Jaipur, and an MBA from R.A. Poddar Institute of Management, Jaipur.	
Mr. Vijay Kumar Pareek Executive Director	Mr. Pareek has >30 years of sales and marketing experience. He joined Gravita in 2012, following successful tenures at Larsen & Toubro, Grasim, and Aditya Birla Group. Mr. Pareek holds B.E. in Metallurgy (Gold Medallist) from MNIT, Jaipur, and an MBA from Global U21, Singapore.	
Mr. Sunil Kansal CFO	Mr. Kansal has three decades of experience in the finance. He is a Chartered Accountant and also holds a Bachelor's and a Master's Degrees in Commerce from Rajasthan University. Mr. Kansal joined Gravita in 2008, bringing with him a wealth of knowledge in financial management and strategic planning, honed during his tenure at Jaipur Rugs Company Pvt. Ltd.	

Mr. Ajay Thapliyal Executive VP	Mr. Ajay Thapliyal joined Gravita in 2017, and has >30 years of experience in global market including America, Europe, and Asia, after his tenures at Indian Rayon, Ambuja Holcim, and FLSmidth. Mr. Thapliyal holds a B.Tech in Chemical Engineering from HBTU, Kanpur, and an Executive MBA from CBS, Denmark.	
Mr. Sandeep Choudhary Executive VP	Mr. Choudhary has over 30 years of experience. He holds a B.E. in Civil Engineering from MNIT, Jaipur, and is a life member of prestigious organisations, including the Indian Concrete Institute, The Institute of Engineers, and the Indian Roads Congress. Before joining Gravita in 2009, he has worked at Ansal API, Omaxe, and DLF.	
Mr. Rajeev Surana Executive Director	Mr. Rajeev Surana has been an integral part of Gravita since its inception. With a B.E. in Mechanical Engineering from MNIT, Rajeev possesses a strong technical foundation and a deep understanding of operations, which has been instrumental in shaping Gravita's success.	
Mr Dinesh Kumar Govil Independent Director	Mr. Govil has over 36 years in the Banking Industry. He is a qualified Engineer and a PMA from "Indian Institute of Management" Ahmedabad. He is Chairman of Audit Committee of Board of Directors of the Company. He has served BOB Housing Finance Ltd., Jaipur in the capacity of Managing Director. He has been on the Board of various Gramin Banks sponsored by Bank of Baroda for 5 years. He is also having exposure of International Banking environment during his tenure of 4 years as Senior Manager/Chief Manager in U.A.E	AMRG Finance Pvt Ltd Global Surface Ltd Vipul Impex & Infrabuid Ltd Sawan Consulting Pvt Ltd Viva Home Finance Ltd
Mr. Arun Kumar Gupta Independent Director	Mr. Arun Kumar Gupta, an Engineering Graduate, has vast experience of 43 years while working on various positions with Government of Rajasthan. He has served as Chairman of Task Force for Revamping of Chambal Canal in Rajasthan in CY07-08. He has also been advisor of Govt of Rajasthan on issues relating to Inter-state water dispute and other technical matters relating to development of water resources in the State of Rajasthan	
Mrs. Chanchal Chadha Phadnis Independent Director	Mrs. Phadnis has been a banker with 36 years of experience. She has served as administration head of SBI's Delhi Zone and in-charge HRM & Training of Jaipur Zone. She has also served as an advisor of BIFR, Ministry of Finance for a period of 5 years by providing her expertise in financial, legal and banking related matters. In addition, she has also acted as member and chairperson of "Internal Complaints Committee on Prevention of Sexual Harassment at Workplace" of State Bank of India, Local Head Office, New Delhi	

Source: I-Sec research, Company data

Exhibit 91: 50% Board members comprise independent directors

Board has 3 Independent Director out of 6 Directors

Key Committees	Chairman	Description
Audit Committee	Dinesh Govil (Independent Director)	3 members with 3 Independent Director
Nomination & Remuneration Committee	Dinesh Govil (Independent Director)	3 members with 3 Independent Director
Stakeholders Relationship Committee	Dinesh Govil (Independent Director)	3 members with 1 Independent Director
CSR Committee	Dinesh Govil (Independent Director)	3 members with 1 Independent Director
Compensation	Dinesh Govil (Independent Director)	3 members with 3 Independent Director
Risk Management Committee	Dinesh Govil (Independent Director)	3 members with 1 Independent Director
3 Board Committees with 100% of Independent Directors		

Source: Company data, I-Sec research

Related-party transactions

Enterprises over which key managerial personnel and/ or their relatives exercise significant influence

- Saurabh Farms Limited
- Shah Buildcon Private Limited
- Jalousies India Private Limited
- Gravita Impex Private Limited
- Agarwal Family Private Trust

Exhibit 92: Key management personnel

Name	Designation
Dr. Mahavir Prasad Agarwal	Chairman and Whole-time director
Mr. Rajat Agrawal	Managing Director
Mr. Yogesh Malhotra	Whole-time director and Chief Executive Officer
Mr. Sunil Kansal	Chief Financial Officer
Mr. Nitin Gupta	Company Secretary
Mr. Dinesh Kumar Govil	Independent director
Mr. Arun Kumar Gupta	Independent director
Mr. Chanchal Chadha Phadnis	Independent director

Source: I-Sec research, Company data

Exhibit 93: Related-party transactions

(INR mn)	FY18	FY19	FY20	FY21	FY22	FY23
Remuneration paid to KMP						
Short-term benefits						
Dr. Mahavir Prasad Agarwal	20.3	20.3	12.0	12.0	12.0	12.9
Mr. Rajat Agrawal	12.0	12.0	20.5	13.7	11.9	25.3
Mr. Yogesh Malhotra	-	0.0	7.9	7.9	19.2	40.0
Mr. Naveen Prakash Sharma	-	-	6.5	-		
Mr. Sunil Kansal	-	-	7.9	6.6	9.5	12.2
Mr. Nitin Gupta	-	-	0.8	0.8	1.3	1.5
Post-employment benefits						
Dr. Mahavir Prasad Agarwal	-	-	0.8	0.8	0.6	0.9
Mr. Rajat Agrawal	-	-	0.8	0.8	0.6	1.8
Mr. Yogesh Malhotra	-	-	0.5	0.6	0.2	0.6
Mr. Naveen Prakash Sharma	-	-	0.4	-		
Mr. Sunil Kansal	-	-	0.5	0.5	0.2	0.5
Mr. Nitin Gupta	-	-	0.0	0.0	-	0.1
Share based payment						
Mr. Yogesh Malhotra	-	-	1.9	-	-	-
Mr. Naveen Prakash Sharma	-	-	2.5	-	-	-
Mr. Sunil Kansal	-	-	1.0	-	-	-
Mr. Nitin Gupta	-	-	0.3	-	-	-
Dividend Paid						
KMP						
Mr. Rajat Agrawal	-	-	32.7	36.0	99.1	-
Mr. Yogesh Malhotra	-	-	0.0	0.0	0.1	-
Mr. Naveen Prakash Sharma	-	-	0.0	-		
Mr. Sunil Kansal	-	-	0.0	0.1	0.2	-
Mr. Nitin Gupta	-	-	0.0	0.0	0.1	-
Agarwal Family Private Trust	-	-	17.3	19.1	52.2	-
Purchase of PPE						
KMP						
Mr. Rajat Agrawal	-	-	-	7.1	-	-
Rent expenses						
KMP						
Mr. Rajat Agrawal	3.6	3.8	4.0	4.0	4.0	4.2
Relatives of KMP						
Mrs. Anchal Agrawal	0.5	0.6	0.6	0.6	0.7	0.7
Enterprises having common KMP/relatives						
Saurabh Farms Limited	1.4	1.4	3.9	4.2	4.4	4.7
Shah Buildcon Private Limited	0.3	0.3	0.3	2.2	3.6	4.4
Jalousies India Private Limited	2.8	3.0	3.1	3.2	3.4	3.6
Other Contractual Payable						
Enterprises having common KMP/relatives						
Gravita Impex Private Limited	-	-	0.4	0.4	-	-
Corporate guarantee taken						
Enterprises having common KMP/relatives						
Gravita Impex Private Limited	-	-	1,941.6	1,459.4	0.4	0.3
Security deposits						
Anchal Agarwal	-	-	-	-	0.2	0.2
Rajat Agrawal	-	-	-	-	1.2	1.2
Saurabh Farms Limited	-	-	-	-	1.4	1.4
Shah Buildcon Private Limited	-	-	-	-	1.2	1.2
Jalousies (India) Private Limited	-	-	-	-	1.1	1.1
Remuneration payable to KMP						
Dr. Mahavir Prasad Agrawal	0.5	0.6	0.6	0.8	1.0	1.1
Mr. Rajat Agrawal	0.4	0.7	1.2	0.7	1.1	2.3
Mr. Yogesh Malhotra	-	-	0.1	0.4	0.5	0.4
Mr. Sunil Kansal	-	-	0.2	0.3	0.3	0.4
Mr. Nitin Gupta	-	-	0.1	0.1	0.1	0.1

Source: Company data, I-Sec research

Exhibit 94: Shareholding pattern

Shareholding (%)	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24
Promoters	73.1%	72.8%	72.8%	72.5%	73.0%	73.0%	73.0%	66.5%
Rajat Agrawal	**47.7%**	**47.6%**	**47.5%**	**47.4%**	**47.9%**	**47.9%**	**47.9%**	**41.4%**
Dr. Mahavir Prasad Agarwal on Behalf Of Agrawal Family Pvt Trust	25.3%	25.3%						
Dr. Mahavir Prasad Agarwal Trustee on behalf of Agrawal Family Pvt Trust			25.2%					
Mahavir Prasad Agarwal Trustee of Agrawal family Pvt Trust				25.1%	25.1%	25.1%	25.1%	0.0%
Rajat Agrawal Trustee of Agrawal Family Pvt Trust								25.1%
FIIs	4.5%	0.3%				1.2%	3.1%	11.1%
New Leaina Investments Limited	2.5%							
Lts Investment Fund Ltd	2.0%							
Nomura India Investment Fund Mother Fund								2.0%
Goldman Sachs Funds - Goldman Sachs India Equity P							1.6%	2.0%
Jupiter India Fund								1.2%
Nomura Funds Ireland Public Limited Company- Nomura								1.1%
The Nomura Trust and Banking Co., Ltd as The Trust								1.0%
DIIs	0.3%	2.2%	2.0%	0.6%	0.3%	0.2%	0.3%	0.4%
Public	22.2%	24.6%	24.9%	25.8%	24.8%	23.6%	21.7%	20.6%
Others	0.0%	0.1%	0.3%	1.0%	2.0%	2.0%	2.0%	1.5%

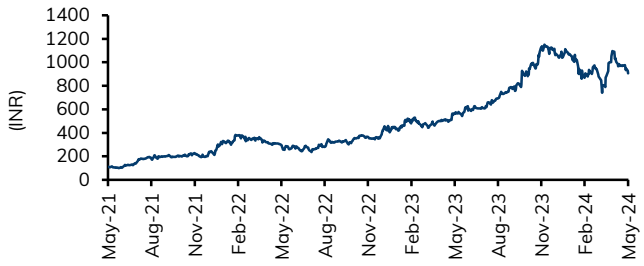
Source: I-Sec research, Company data

Exhibit 95: Shareholding pattern

%	Sep'23	Dec'23	Mar'24
Promoters	66.5	66.5	66.5
Institutional investors	10.4	11.1	11.5
MFs and others	0.0	0.1	0.1
FIs/Banks	0.0	0.0	0.0
Insurance	0.0	0.0	0.0
FIIs	10.4	11.0	11.4
Others	23.1	22.4	22.0

Source: Bloomberg

Exhibit 96: Price chart



Source: Bloomberg

Financial Summary

Exhibit 97: Profit & Loss

(INR mn, year ending March)

	FY23A	FY24A	FY25E	FY26E
Net Sales	28,006	31,608	39,407	48,186
Operating Expenses	**3,210**	**3,160**	**3,940**	**4,845**
EBITDA	2,860	3,309	4,087	5,422
EBITDA Margin (%)	**10.2**	**10.5**	**10.4**	**11.3**
Depreciation & Amortization	240	380	538	789
EBIT	2,620	2,930	3,548	4,633
Interest expenditure	391	492	485	512
Other Non-operating Income	47	304	150	150
Recurring PBT	2,276	2,742	3,213	4,271
Profit / (Loss) from Associates	**-**	**-**	**-**	**-**
Less: Taxes	**235**	**319**	**390**	**539**
PAT	2,041	2,423	2,824	3,732
Less: Minority Interest	-	-	-	-
Extraordinaries (Net)	-	-	-	-
Net Income (Reported)	2,041	2,423	2,824	3,732
Net Income (Adjusted)	**2,041**	**2,423**	**2,824**	**3,732**

Source Company data, I-Sec research

Exhibit 98: Balance sheet

(INR mn, year ending March)

	FY23A	FY24A	FY25E	FY26E
Total Current Assets	8,624	11,597	12,673	14,556
of which cash & cash eqv.	381	988	1,519	1,587
Total Current Liabilities & Provisions	2,249	1,894	2,237	2,502
Net Current Assets	**6,375**	**9,703**	**10,436**	**12,054**
Investments	11	165	165	165
Net Fixed Assets	2,664	3,421	5,168	7,499
ROU Assets	68	63	63	63
Capital Work-in-Progress	455	428	428	428
Total Intangible Assets	1	1	1	1
Other assets	229	349	349	349
Deferred Tax Assets	-	-	-	-
Total Assets	**9,803**	**14,129**	**16,609**	**20,558**
Liabilities				
Borrowings	**3,445**	**5,451**	**5,094**	**5,297**
Deferred Tax Liability	**133**	**54**	**66**	**81**
provisions	65	100	100	100
other Liabilities	143	19	19	19
Equity Share Capital	138	138	138	138
Reserves & Surplus	5,751	8,236	11,060	14,792
Total Net Worth	**5,889**	**8,374**	**11,198**	**14,930**
Minority Interest	128	132	132	132
Total Liabilities	**9,803**	**14,129**	**16,609**	**20,558**

Source Company data, I-Sec research

Exhibit 99: Quarterly trend

(INR mn, year ending March)

	Jun-23	Sep-23	Dec-23	Mar-24
Net Sales	7,034	8,362	7,578	8,634
% growth (YOY)	-6.1%	18.9%	-9.4%	13.9%
EBITDA	584	726	804	722
Margin %	8.3%	8.7%	10.6%	8.4%
Other Income	234	141	154	249
Extraordinaries	-	-	-	-
Adjusted Net Profit	502	536	619	652

Source Company data, I-Sec research

Exhibit 100: Cashflow statement

(INR mn, year ending March)

	FY23A	FY24A	FY25E	FY26E
Operating Cashflow	**2,032**	**386**	**3,658**	**3,497**
Working Capital Changes	(786)	(2,487)	(189)	(1,536)
Capital Commitments	(1,061)	(1,687)	(2,285)	(3,120)
Free Cashflow	**971**	**(1,300)**	**1,373**	**377**
Other investing cashflow	**7**	**108**	**-**	**-**
Cashflow from Investing Activities	(1,054)	(1,578)	(2,285)	(3,120)
Issue of Share Capital	-	-	-	-
Interest Cost	(389)	(482)	(485)	(512)
Inc (Dec) in Borrowings	(433)	1,997	(357)	203
Dividend paid	(43)	(295)	-	-
Others	-	-	-	-
Cash flow from Financing Activities	(874)	1,209	(842)	(309)
Chg. in Cash & Bank balance	**105**	**17**	**531**	**67**
Closing cash & balance	339	320	890	957

Source Company data, I-Sec research

Exhibit 101: Key ratios

(Year ending March)

	FY23A	FY24A	FY25E	FY26E
Per Share Data (INR)				
Reported EPS	30.0	35.6	41.5	54.9
Adjusted EPS (Diluted)	30.0	35.6	41.5	54.9
Cash EPS	33.5	41.2	49.4	66.5
Dividend per share (DPS)	-	-	-	-
Book Value per share (BV)	86.6	123.1	164.7	219.6
Dividend Payout (%)	-	-	-	-
Growth (%)				
Net Sales	26.4	12.9	24.7	22.3
EBITDA	35.6	15.7	23.5	32.7
EPS (INR)	37.5	18.7	16.6	32.2
Valuation Ratios (x)				
P/E	30.5	25.7	22.0	16.7
P/CEPS	27.3	22.2	18.5	13.8
P/BV	10.6	7.4	5.6	4.2
EV / EBITDA	1.1	1.3	0.8	0.7
Dividend Yield (%)	-	-	-	-
Operating Ratios				
Gross Profit Margins (%)	21.7	20.5	20.4	21.3
EBITDA Margins (%)	10.2	10.5	10.4	11.3
Effective Tax Rate (%)	10.3	11.6	12.1	12.6
Net Profit Margins (%)	7.3	7.7	7.2	7.7
Net Debt / Equity (x)	0.5	0.5	0.3	0.2
Net Debt / EBITDA (x)	1.1	1.3	0.8	0.7
Fixed Asset Turnover (x)	10.7	9.0	7.8	6.7
Inventory Turnover Days	95	96	70	65
Receivables Days	18	31	18	18
Payables Days	13	9	9	9
Profitability Ratios				
RoCE (%)	27.1	22.1	20.5	22.0
RoE (%)	40.7	33.4	32.8	32.1
RoIC (%)	33.6	26.4	25.5	26.3

Source Company data, I-Sec research

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