

GERDAU

3Q23 Preview: Oxidized steel

LatAm Metals & Mining

Main takeaways:

(i) Volume is struggling to grow in all business units, especially in Brazil BD; (ii) Price is being negatively affected by the macro factor, in relation to the Chinese situation; (iii) Net revenue is projected to be down by -9.0% q/q and -21.4% y/y; (iv) Adjusted EBITDA of R\$3.1bn Genial Est., and net income clocking in at R\$1.6bn Genial Est, both in a double digit retraction; (v) Rating is reiterated at **Neutral**, with a **12M Target Price cut to R\$26.00** (vs. R\$32.00 previously), which leaves an **upside of +13.79%** for the shares.

Gerdau will release its 3Q23 results on November 6th, after the market closes. We expect **weaker numbers** sequentially and a **double-digit drop year-on-year on EBITDA**.

The **main reasons** for the shrinking numbers in 3Q23, in our view, are: (i) Macroeconomic scenario getting worse. We believe that even with the recent drop in interest rates in Brazil, there is a delay until the effect of the SELIC cuts reaches domestic demand for steel. In addition, we see (ii) greater penetration of Chinese steel within apparent consumption in Brazil. We agree that Gerdau, being more exposed to long steel, suffers less than its peers, but competition with the imported product is instigating a price war in the domestic market. Finally, we highlight the (iii) slowdown in the pace of vehicle inventory rebuilding by automakers in the US, indicating a drop in volume for Special Steel division, which previously followed the United Auto Workers (UAW) strike.

Table 1. Shipments Summary (3Q23 Genial Est.)

(Thousand Tonnes - kt)	Genial Est.				
Summary (Shipments)	3Q23E	2Q23	% q/q	3Q22	% y/y
Brazil BD	1.225	1.344	-8,9%	1.330	-7,9%
North America BD	962	975	-1,3%	988	-2,7%
South America BD	304	311	-2,4%	297	2,2%
Special Steel BD	354	379	-6,6%	403	-12,1%

Soure: Gerdau, Genial Investimentos

Table 2. Income Statement Summary (3Q23 Genial Est.)

(R\$ millions)	Genial Est.				
Income Statement	3Q23E	2Q23	% q/q	3Q22	% y/y
Net Revenue	16.614	18.265	-9,0%	21.149	-21,4%
Adjusted EBITDA	3.158	3.792	-16,7%	5.369	-41,2%
Net Income	1.633	2.143	-23,8%	3.022	-46,0%

Soure: Gerdau, Genial Investimentos

Analysts

Igor Guedes

+55 (11) 3206-8286
igor.guedes@genial.com.vc

Lucas Bonventi

+55 (11) 3206-1455
lucas.bonventi@genial.com.vc

Renan Rossi

+55 (11) 3206-1457
renan.rossi@genial.com.vc

Company

GGBR4 BZ Equity

Neutral

Price: R\$ 22.85 (03-Nov-2023)

Target Price 12M: R\$ 26.00

Valuation and rating. Our perception for Brazil BD is of a very adverse scenario, as the Brazilian steel market is facing challenges due to the continuous wave of exports from China. This remaining volume of steel produced in China that is not being fully consumed, and is soon being exported by Chinese producers, is increasing the concentration of imported steel within apparent consumption in Brazil, reaching a penetration rate of 23.2% according to the latest available data from September, a very elastic increase of +11.8p.p y/y. This dynamic results in pressure for price discounts in the local market.

As we went into in more detail in our last report, which is attached ([Gerdau: No longer just a rebar company](#)), until we see clearer signs of the possibility of an increase in tariff barriers by the Brazilian authorities, following Aço Brasil's request (increase to 25% vs. ~12% currently), we will continue to have a Neutral bias towards the steel sector. We still see competition with imported product causing further damage to price realization ahead.

As for North America BD, although we have a slightly more constructive outlook for the business unit, it is also beginning to feel the effects of the economic slowdown, due to the FED's contractionary monetary policy cycle. To top it off, Gerdau is also going through a period of rising CAPEX, and as we are seeing the effects of a bearish steel cycle on the EBITDA line, which continues to contract itself, we believe in a downward trend in cash flow generation in the short term, potentially affecting dividends.

By updating our assumptions in our model to consider a **(i)** higher CAPEX for 2024 and 2025; **(ii)** price realization in Brazil with a still poor dynamics for 2024; and **(iii)** lower volumes for Special Steel due to the United Auto Workers (UAW) strike and a slowdown in the automakers' inventory rebuilding. All that came together, and we ended up **cutting the 12M Target Price to R\$26.00** (vs. R\$32.00 previously), providing an upside of **+13.79%**. Trading at an **EV/EBITDA 24E of 3.4x**, we reiterate our **Neutral rating**.

Straight to the point...

Macro scenario should deteriorate both volume and price. In the expectation of falling volumes in all geographic operations, and with Brazil BD downtrading to 1,225Kt (-8.9% q/q; -7.9% y/y), we expect revenues of R\$6.6bn Genial Est. (-9.1% q/q; -22.5% y/y) in Brazilian operations, which should bring prices basically flat to R\$5,400/t (-0.2% q/q; -15.8% y/y). As for North America, the drop in volumes should have a smaller impact, but with realized prices suffering more, reaching R\$6,500/t (-6.9% q/q; -18.0% y/y).

We see the macro environment hampering the formation of Gerdau's top line, of which we project the consolidated net revenue to reach R\$16.6bn Genial Est. (-9,0% q/q; -21.4% y/y). Even so, we stand by our position that the negative effects will be felt to a lesser extent at Gerdau compared to its Brazilian peers. This is due to the fact that the product mix is mostly linked to long steels, which are experiencing less intense price contraction dynamics than flat steels.

EBITDA down, with margins falling in all units. Looking at the cost outlook, we expect Brazil BD to be the exception with a negative bias, since for all the other business units we are projecting sequentially softer costs, while for the Brazilian operations our estimates indicate something very close to what it was last quarter.

So, with lower revenues and a flat COGS/t, we expect margins to fall at Brazil BD to 10.4% (-3.3p.p q/q). As the Brazilian business unit has ~40% weight, we arrive at a consolidated EBITDA of R\$3.1bn Genial Est. (-16.7% q/q; -41.2% y/y) in our model, showing a double-digit nominal decline and with a margin falling to 19.0% (-1.75p.p q/q). As a result, our expectation is for a cooler net income of R\$1.7bn Genial Est. (-22.3% q/q; -43.3% y/y).

In detail!

Realized prices should be negatively affected by the macro scenario. In the main operating units, we expect prices to fall, with Brazil BD expected to fall marginally to R\$5,400/t (-0.2% q/q; -15.8% y/y), reflecting the strong export situation from China. Although the situation is challenging, as we have mentioned in recent reports, Gerdau has slightly greater protection against Brazilian peers, given a more resilient product mix, and greater exposure to long steel, which is suffering less impact from imports than flat steel. This explains why the drop is projected to be only marginal.

Looking at North America BD, we believe that the downward dynamic in price realization is stronger, reaching R\$6,500/t (-6.9% q/q; -18.0% y/y), after the company granted discounts of -US\$50/t during the quarter. In addition, Special Steel and South America BDs should both see further price drops, of -4.0% q/q and -5.0% q/q, respectively.

Despite the fall in prices, volume may also be affected. Brazil's BD domestic market should suffer slightly in terms of volume, reaching 1,035kt Genial Est. (-2.8% q/q; -14.1% y/y), while the foreign market could shrink more, to 190kt Genial Est. (-32.0% q/q; +50.6 y/y). Reaching a consolidated 1.2Mt in the region, down -8.9% q/q and -7.9% y/y.

North America BD should be more resilient, especially after a more relevant price discount that helps maintain volumes q/q, at 962Kt Genial Est. (vs. 975kt in 2Q23). Through our latest conversations with the company, we feel that demand had a downward trajectory in 3Q23 in both regions, but mainly in Brazil BD, reflecting directly on expected volume and price levels we motioned.

For the other business units, we also expect a reduction in sales volume, with South America BD being negatively impacted by the disruption in exports from Brazil, and Special Steel by the automotive scenario slowing down again in the US, and with ANFAVEA revising its projection to +1% y/y growth (vs. 2% y/y previously) in light vehicle production in Brazil.

Revenue down across all business units. In line with the tight price dynamics and falling volumes, we expect a contraction in consolidated net revenue to R\$16.6bn Genial Est. (-9.0% q/q; -21.4% y/y), driven by a decline in all business units, but mainly in Brazil BD of -9.1% q/q and in North America BD of -8.1% q/q.

Table 3. Net Revenue Gerdau (3Q23 Genial Est.)

(R\$ millions)	3Q23E	2Q23	% q/q	3Q22	% y/y
	Genial Est.	Reported		Reported	
Net Revenue	16.614	18.265	-9,0%	21.149	-21,4%
Brazil BD	6.579	7.236	-9,1%	8.484	-22,5%
North America BD	6.251	6.806	-8,1%	7.832	-20,2%
South America BD	1.492	1.609	-7,3%	1.972	-24,4%
Special Steel BD	2.765	3.086	-10,4%	3.477	-20,5%
Eliminations	(474)	(471)	0,6%	(616)	-23,1%

Source: Gerdau, Genial Investimentos

Costs in different dynamics between the operations' geographies. In order to help the overall result a little, we expect costs at North America BD to ease a bit, reaching R\$5,100/t Genial Est. (-3.8% q/q; -8.7% y/y), along with South America BD and Special Steel, which also are pointed to reduce sequentially, by -8.7% q/q and -10.8% q/q, respectively. Conversely, Brazil BD is still unlikely to make much progress, with costs rising marginally q/q to R\$4,600/t Genial Est. (+2.2% q/q; -9.3% y/y).

What we saw happen in the first half of the year was a gradual increase in the supply of scrap in the US, which until last year had been under pressure. This pressure, which had previously existed, coupled with a still-strong demand dynamic, led to a rise in the metal spread during this period. However, as the level of scrap reserves has recovered over the last few months, there is almost no room for the metal spread to remain at such high levels. As a result, we were seeing clients holding back on ordering, in the expectation that steel producers would cut prices. We had anticipated this trend since our reports last quarter, and this is exactly what happened for 3Q23.

Gerdau cut prices by ~US\$50/t, and some US peers even cut prices more intensely than that. Along these lines, looking at costs, the positive counterpoint is our expectation that the higher supply of scrap is one of the justifications for lower costs for North America BD. We'll talk about the outlook for 4Q23 and 2024 in the "Our Take" section at the end of the report.

EBITDA projected in contraction, with margins decreasing. We consolidate our expectation of an Adjusted EBITDA clocking in at R\$3.1bn Genial Est., representing a drop of -16.7% q/q and -41.2% y/y, equivalent to a margin of 19.0% (-1.75p.p q/q; -6.38p.p y/y).

The main business units should bring in weaker figures, with Brazil projected at R\$687mn Genial Est. (-30.8% q/q; -56.0% y/y) and North America at R\$1.4bn Genial Est. (-17.5% q/q; -43.2% y/y), also showing compression in their margins, to 10.4% and 23.4% respectively. Despite the difficulties that the other BDs (South America and Special Steels) are likely to experience, we expect the reduce in costs tendency to offset the top line's loss for them.

Table 4. EBITDA Gerdau (3Q23 Genial Est.)

(R\$ millions)	3Q23E	2Q23		3Q22	
	Genial Est.	Reported	% q/q	Reported	% y/y
Adjusted EBITDA	3.158	3.792	-16,7%	5.369	-41,2%
Brazil BD	687	992	-30,8%	1.563	-56,0%
North America BD	1.465	1.777	-17,5%	2.579	-43,2%
South America BD	421	481	-12,5%	573	-26,6%
Special Steel BD	634	603	5,2%	631	0,5%
Eliminations	(49)	(60)	-18,1%	23	-

Source: Gerdau, Genial Investimentos

Weaker net income. With a financial result of -R\$94mn expected, we arrived at a net profit of R\$1.6bn Genial Est. at our model, representing a drop of -23.8% q/q and -46.0% y/y, and a net margin of 9.8% (-1.9p.p q/q; -4.46p.p y/y).

Table 5. Income Statement Gerdau (3Q23 Genial Est.)

(R\$ millions)	3Q23E	2Q23		3Q22	
	Genial Est.	Reported	% q/q	Reported	% y/y
Net Revenue	16.614	18.265	-9,0%	21.149	-21,4%
COGS	(14.013)	(14.987)	-6,5%	(16.411)	-14,6%
Adjusted EBITDA	3.158	3.792	-16,7%	5.369	-41,2%
EBITDA Margin (%)	19,0%	20,8%	-1,75p.p	25,4%	-6,38p.p
EBIT	2.293	2.885	-20,5%	4.463	-48,6%
EBIT Margin (%)	13,8%	15,8%	-2p.p	21,1%	-7,3p.p
D&A	(733)	(752)	-2,6%	(738)	-0,7%
Financial Result	(94)	(423)	-77,8%	(530)	-82,3%
Net Income	1.633	2.143	-23,8%	3.022	-46,0%
Net Margin (%)	9,8%	11,7%	-1,9p.p	14,3%	-4,46p.p

Source: Gerdau, Genial Investimentos

Our Take on Gerdau

Brazil remains the main challenge. Looking ahead, we believe that Brazil BD should continue to feel the impacts of the flood of Chinese steel into apparent consumption, whose imports have been revised by the Aço Brasil Institute to 2Mt in 2023 (vs. 1.2Mt in 2022). This figure would be equivalent to almost 50% of the entire volume of imported steel consumption. The ease way of accessing the Brazilian market, given the low import tariff compared to other countries, creates a scenario in which the local steel market is constantly under pressure, with difficulties in maintaining the sales volume and price previously practiced. In an attempt not to lose any more market share, we believe that the successive price discounts for flat steel will continue, which will end up hampering the results of domestic steelmakers.

Chinese exports probably will remain at high levels for a while. We believe that low margins and a still contracting industrial PMI should continue to create the conditions for the situation to remain challenging. Iron ore and coke prices are putting pressure on steelmaking margins in China, leading the local metal spread to narrow further, after a gradual improvement that we have witnessed since July. According to our data, the metal spread in China fell back below US\$10/t, putting an end to this movement and closing September at US\$9.6/t for hot-rolled coil, a notable drop from the US\$51/t we were seeing at the end of August.

The industrial PMI for October fell back to 49.5, returning to the contraction zone after reaching 50.2 in September. Therefore, demand for domestic steel for capital goods still looks shaky. Considering China's large installed steel capacity of over 1.2Bt, with our projection of 920Mt 23E for total production, we believe that 4Q23 will still see weak price dynamics for flat steel in Brazil and with the beginning of 2024 following in the same vein. In other words, China will continue to export surplus steel to global markets, mainly affecting countries with lower protectionist barriers, which is the case with Brazil. For long steel, we are seeing a premium of +10.8% vs. imported steel, and for flat steel the premium is +17.8%.

The situation for long steel continues to be better than for flat steel. Our price monitoring indicates that Brazilian domestic rebar has seen a drop in premium of ~1.5p.p, due to a rise of +R\$50/t in the domestic price, to ~R\$3,750/t. For the first time in a few months, the premium would have been reduced by an increase in the domestic price, and not by a drop in relation to the cheaper imported steel braking barriers at Brazilian's borders. We believe that some steelmakers are in the process of negotiating the suspension of discounts since September and the beginning of the process of repricing long steel for the last few months of the year. Some players who have faced greater difficulties with volume may have been too forceful when it came to negotiating price increases, which may have made it quite difficult the pass-through to be fully accepted by clients, since demand still seems to be very weak at the top end. With the SELIC rate still being cut (once again by -50bps recently), demand could lift in 2024.

North America is slowing down, but still has better prospects than Brazil. On the other hand, even though it is beginning to show signs of an economic slowdown, we believe that the situation for North America BD still has a slightly more constructive view of the sector's sustainability in the local context. After several estimates pointing to a recession in the American economy in recent quarters, we have had strong data that has shown resilience, but which has also highlighted the need for the FED to raise interest rates.

In fact, already showing signs that monetary tightening is having an effect, the FED held back on the pace of increases at the last meeting, leaving the prime rate stable at 5.25%-5.50%. However, we believe that the situation for Brazil will remain more challenging than in the US, looking ahead to 4Q23 and 2024. With increased exports of scrap iron to other markets in August and the steady easing of the summer season doldrums, coupled with tight supply, have led to a growing optimistic outlook for steel in the US, especially in 2024. After the price cut to try to level the metal spread, we believe it is likely that clients will return to placing orders in the steel producers' supply book.

CAPEX as the center of investor discussion. On top of all this, Gerdau has been presenting expansion projects, with an increase in CAPEX until 2026, which ends up reducing cash flow generation in the short and medium term. We emphasize that the vast majority of investors we talk to are looking at short-term dynamics when they invest in companies linked to commodities.

So, whether for capacity addition projects, maintenance of current mills or cost efficiency, we believe that Gerdau using a significant portion of its operating cash flow generation to maintain its competitive advantages can be seen as a short-term negative, precisely because it is doing so at a lower point in the steel cycle, without the EBITDA strength to sustain an increase in CAPEX.

Oxidized steel. We believe that this dynamic has been removing the buyers' flow from the stock, explaining the -20% drop in the share prices since the week preceding the release of the results for the previous quarter, when, at the time, we downgraded the company to Neutral, anticipating the market's reaction ahead of consensus.

Exactly one year ago, for the 3Q22 review, we published a report entitled "Macro scenario does not oxidize Gerdau steel", alluding to the fact that since this time last year, the company's Brazilian peers had already begun to report weaker results, given the increase in interest rates in Brazil, cooling demand. But at that time, Gerdau was still ahead of the competition and showed numbers pointing to growth. Nowadays, we still prefer Gerdau to other steel peers in our coverage, but as the macro scenario has only worsened since then, the tendency is for Gerdau to start suffering from the sector's situation as well. Last quarter's results have already confirmed this, and we expect 3Q23 to only reinforce this trend.

As we explained at the beginning of this report, we revised our assumptions to better reflect our **(i)** upward bias for CAPEX, **(ii)** continuation of the price deterioration process for flat steel in Brazil (~1/3 of Gerdau's portfolio) and **(iii)** worsening volumes in the Special Steel division. **The new assumptions led to a Target Price cut.** Trading at a **24E EV/EBITDA** of **3.4x**, we reiterate our **NEUTRAL rating**, with a new **12M Target Price** of **R\$26.00** (vs. R\$32.00 previously), providing an **upside** of **+13.79%** to the shares.

Appendix: Gerdau

Figure 1. Gerdau – Income Statement in R\$ Millions (Genial Est. 2023-2028)

Income Statement	2023E	2024E	2025E	2026E	2027E	2028E
Net Revenue	69.336	67.848	68.664	68.621	70.399	73.112
(-) COGS	(57.644)	(56.415)	(57.233)	(57.927)	(58.700)	(59.766)
Gross Profit	11.692	11.434	11.431	10.693	11.699	13.345
(-) Expenses	(2.027)	(1.951)	(2.029)	(2.089)	(2.163)	(2.249)
Adjusted EBITDA	14.046	13.910	14.200	13.720	14.968	16.833
(-) D&A	(2.200)	(3.206)	(3.562)	(3.880)	(4.165)	(4.420)
EBIT	11.359	10.161	10.088	9.291	10.240	11.828
(+/-) Financial Result	(1.044)	(1.075)	(1.005)	(1.030)	(957)	(1.189)
(-) Taxes	(2.340)	(2.338)	(2.337)	(2.126)	(2.389)	(2.737)
Net income	7.975	6.748	6.746	6.136	6.895	7.902
Profitability						
Net margin (%)	11,50%	9,95%	9,83%	8,94%	9,79%	10,81%

Figure 2. Gerdau– Cash Flow in R\$ Millions (Genial Est. 2023-2028)

Cash Flow (FCFF)	2023E	2024E	2025E	2026E	2027E	2028E
Net Revenue	69.336	67.848	68.664	68.621	70.399	73.112
(-) COGS	(57.644)	(56.415)	(57.233)	(57.927)	(58.700)	(59.766)
Adjusted EBITDA	14.046	13.910	14.200	13.720	14.968	16.833
EBIT	11.359	10.161	10.088	9.291	10.240	11.828
(-) Taxes	(2.340)	(2.338)	(2.330)	(2.134)	(2.366)	(2.727)
(+) D&A	2.200	3.206	3.562	3.880	4.165	4.420
(+/-) Δ WK	1.880	(194)	(29)	(421)	(296)	(444)
(-) Capex	(5.822)	(5.888)	(5.952)	(6.018)	(6.085)	(6.152)
FCFF	7.278	4.946	5.340	4.598	5.658	6.925

Disclosure Section

1. GENERAL DISCLAIMER

This report has been produced by the research department (“Genial Institucional Research”) of Genial Institucional Corretora de Câmbio, Títulos e Valores Mobiliários S.A. (“GENIAL INSTITUTIONAL CCTVM”). Genial Institucional is a brand name of Genial Investimentos CCTVM.

Genial Rating

	Definition	Coverage
Buy	Expected return above +10% in relation to the Company's sector average	49%
Neutral	Expected return between +10% and -10% relative to the Company's industry average	41%
Sell	Expected return below -10% in relation to the Company's sector average	5%
under Review	Under review	5%

This report may not be reproduced or redistributed to any other person, in whole or in part, for any purpose, without the prior written consent of GENIAL INSTITUTIONAL CCTVM. GENIAL INSTITUTIONAL CCTVM accepts no liability whatsoever for the actions of third parties in this respect.

This research report is for distribution only under such circumstances as may be permitted by applicable law. This research report has no regard to the specific investment objectives, financial situation or particular needs of any specific recipient, even if sent only to a single recipient. This research report is not guaranteed to be a complete statement or summary of any securities, markets, reports or developments referred to in this research report. Neither GENIAL INSTITUTIONAL CCTVM nor any of its directors, officers, employees or agents shall have any liability, however arising, for any error, inaccuracy or incompleteness of fact or opinion in this research report or lack of care in this research report’s preparation or publication, or any losses or damages which may arise from the use of this research report

GENIAL INSTITUTIONAL CCTVM may rely on information barriers, such as “Chinese Walls” to control the flow of information within the areas, units, divisions, groups, or affiliates of GENIAL INSTITUTIONAL CCTVM.

Investing in any non-U.S. securities or related financial instruments (including ADRs) discussed in this research report may present certain risks. The securities of non-U.S. issuers may not be registered with, or be subject to the regulations of, the U.S. Securities and Exchange Commission. Information on such non-U.S. securities or related financial instruments may be limited. Foreign companies may not be subject to audit and reporting standards and regulatory requirements comparable to those in effect within the United States.

The value of any investment or income from any securities or related financial instruments discussed in this research report denominated in a currency other than U.S. dollars is subject to exchange rate fluctuations that may have a positive or adverse effect on the value of or income from such securities or related financial instruments.

Past performance is not necessarily a guide to future performance and no representation or warranty, express or implied, is made by GENIAL INSTITUTIONAL CCTVM with respect to future performance. Income from investments may fluctuate. The price or value of the investments to which this research report relates, either directly or indirectly, may fall or rise against the interest of investors. Any recommendation or opinion contained in this research report may become outdated as a consequence of changes in the environment in which the issuer of the securities under analysis operates, in addition to changes in the estimates and forecasts, assumptions and valuation methodology used herein.

The locally listed shares of Brazilian companies may only be purchased by investors outside of Brazil who are “eligible investors” within the meaning of applicable laws and regulations.

2. ANALYST(S) DISCLOSURES AND CERTIFICATION

The principal analyst, IGOR GUEDES, is responsible for the content of this report and for meeting the requirements of Securities and Exchange Commission of Brazil (CVM) Instruction 598/2018.

The analysts hereby certify that the views expressed in this research report accurately reflect their personal views about the subject securities or issuers and it was prepared in an independent manner, including with respect to the person and to GENIAL INSTITUTIONAL.

The analyst hereby certifies that he (she) has no connection with any individual who works for the issuer(s) discussed in this report.

The analyst hereby certifies that he (she), or his (her) spouse or companion, either directly or indirectly, in his or her own name or on behalf of a third party, does not hold any of the securities covered in this report.

The analyst hereby certifies that he (she), or his (her) spouse or companion, is not directly or indirectly involved in the purchase, disposal or brokering of the securities covered in this report.

The analyst hereby certifies that he (she), or the his (her) spouse or companion, has no direct or indirect financial interest in the issuer covered in this report (other than trading shares in investment funds, in which the analyst cannot control, directly or indirectly, the administration or management of the fund, or which do not concentrate investments in sectors or companies that are covered by reports produced by the analyst).

The analyst's compensation is, directly or indirectly, determined by income from GENIAL INSTITUTIONAL's business and financial operations.

In addition, the analysts certify that no part of their compensation was, is, or will be directly or indirectly related to the specific recommendations or views expressed in this research report.

The compensation of the analyst who prepared this report is determined by research management and senior management (not including investment banking). Analyst compensation is not based on investment banking revenues, however, compensation may relate to the revenues of GENIAL INSTITUTIONAL CCTVM, its affiliates and/or subsidiaries as a whole, of which investment banking, sales and trading are a part. Compensation paid to analysts is the sole responsibility of GENIAL INSTITUTIONAL CCTVM.

The analyst hereby certifies that he (she), or his (her) spouse or companion, does not serve as an officer, director, or advisory board member of the subject company.

The principal analyst is responsible for the content of this report and for meeting the requirements of Securities and Exchange Commission of Brazil (CVM) Instruction 598/2018.

Unless otherwise stated, the individuals listed on the cover page of this report are research analysts.

3. ADDITIONAL DISCLOSURE

- (i) This document was prepared by GENIAL INSTITUTIONAL Research and is hereby supplied for the sole purpose of providing information about companies and their securities.
- (ii) The information contained herein is provided for informational purposes only and does not constitute an offer to buy or sell, and should not be construed as a solicitation to acquire, any securities in any jurisdiction. The opinions expressed herein regarding the purchase, sale or holding of securities, or with respect to the weighting of such securities in a real or hypothetical portfolio, are based on careful analysis by the analysts who prepared this report and should not be construed by current or future investors as recommendations for any particular investment decision or action. The investor's final decision should be made considering all of the risks and fees involved. This report is based on information obtained from primary or secondary public sources, or directly from companies, and is combined with estimates and calculations prepared by GENIAL INSTITUTIONAL CCTVM. This report does not purport to be a complete statement of all material facts related to any company, industry, security or market strategy mentioned. The information has been obtained from sources believed to be reliable, but GENIAL INSTITUTIONAL CCTVM does not make any express or implied representation or warranty as to the completeness, reliability or accuracy of such information. The information, opinions, estimates and projections contained in this document are based on current data and are subject to change. Prices and availability of financial instruments are indicative only and subject to change without notice. GENIAL INSTITUTIONAL CCTVM is under no obligation to update or revise this document or to advise of any changes in such data.
- (iii) The securities discussed in this report, as well as the opinions and recommendations contained herein, may not be appropriate for every type of investor. This report does not take into account the investments objectives, financial situation or particular needs of any particular investor. Investors who wish to buy, sell or invest in securities that are covered in this report should seek independent financial advice that takes individual characteristics and needs into consideration, before making any investment decision with respect to the securities in question. Each investor should make independent investment decisions after carefully analyzing the risks, fees and commissions involved. If a financial instrument is denominated in a currency other than an investor's currency, changes in exchange rates may adversely affect the price or value of, or the income derived from the financial instrument, and the reader of this report assumes all foreign exchange risks. Income from financial instruments may vary, and therefore their price or value may rise or fall, either directly or indirectly. The information, opinions and recommendations contained in this report do not constitute and should not be interpreted as a promise or guarantee of a particular return on any investment. Past performance does not necessarily indicate future results, and no representation or warranty, express or implied, is made herein regarding future performance. Therefore, GENIAL INSTITUTIONAL CCTVM, its affiliated companies, and the analysts involved in this report take no responsibility for any direct, indirect or consequential loss resulting from the use of the information contained in this report, and anyone using this report undertakes to irrevocably indemnify GENIAL INSTITUTIONAL CCTVM and its affiliates from any claims and demands.
- (iv) Prices in this report are believed to be reliable as of the date on which this report was issued and are derived from one or more of the following: (i) sources as expressly specified alongside the relevant data; (ii) the quoted price on the main regulated market for the security in question; (iii) other public sources believed to be reliable; or (iv) GENIAL INSTITUTIONAL CCTVM's proprietary data or data available to GENIAL INSTITUTIONAL CCTVM.

- (v)** No representation or warranty, either express or implied, is provided in relation to the accuracy, completeness or reliability of the information contained herein, except with respect to information concerning GENIAL INSTITUTIONAL CCTVM, its subsidiaries and affiliates. In all cases, investors should conduct their own investigation and analysis of such information before taking or omitting to take any action in relation to securities or markets that are analyzed in this report.
- (vi)** GENIAL INSTITUTIONAL CCTVM makes no representations herein that investors will obtain profits. GENIAL INSTITUTIONAL CCTVM will not share with investors any investment profits nor accept any liability for any investment losses. Investments involve risks and investors should exercise prudence in making their investment decisions. GENIAL INSTITUTIONAL CCTVM accepts no fiduciary duties on behalf of recipients of this report and in communicating this report is not acting in a fiduciary capacity. This report is not to be relied upon in substitution for the exercise of recipient's independent judgment. Opinions, estimates, and projections expressed herein constitute the current judgment of the analyst responsible for the substance of this report as of the date on which the report was issued and are therefore subject to change without notice and may differ or be contrary to opinions expressed by other business areas or groups of GENIAL INSTITUTIONAL CCTVM as a result of using different assumptions and criteria. The information, opinions and recommendations contained in this report do not constitute and should not be interpreted as a promise or guarantee of a particular return on any investment.
- (vii)** Because the personal views of analysts may differ from one another, GENIAL INSTITUTIONAL CCTVM, its subsidiaries and affiliates may have issued or may issue reports that are inconsistent with, and/or reach different conclusions from, the information presented herein. Any such opinions, estimates, and projections must not be construed as a representation that the matters referred to therein will occur. Prices and availability of financial instruments are indicative only and subject to change without notice. Income from financial instruments may vary, and therefore their price or value may rise or fall, either directly or indirectly.
- (viii)** This document may not be: (a) photocopied or duplicated in any manner, in whole or in part, and/or (b) distributed without GENIAL INSTITUTIONAL CCTVM's prior written consent. GENIAL INSTITUTIONAL CCTVM accepts no liability whatsoever for the actions of third parties in this respect.
- (ix)** Neither GENIAL INSTITUTIONAL CCTVM nor any of its affiliates, nor any of their respective directors, employees or agents, accepts any liability for any loss or damage arising out of the use of all or any part of this report.
- (x)** GENIAL INSTITUTIONAL CCTVM (or its affiliates, officers, directors or employees) may, to the extent permitted by law, have acted upon or used the information herein contained before the publication of this report and may have a position in securities issued by the companies mentioned herein and may make a market or act as a principal in any transactions in any such securities. Genial Institucional may from time to time perform investment banking or other services to, or solicit investment banking or other business from, the companies mentioned herein.

4. IMPORTANT DISCLOSURES FOR U.S. PERSONS

This research report was prepared by Genial Institucional CCTVM, a company authorized to engage in securities activities in Brazil. Genial Institucional CCTVM is not a registered broker-dealer in the United States and, therefore, is not subject to U.S. rules regarding the preparation of research reports and the independence of research analysts. This research report is provided for distribution to “major U.S. institutional investors” in reliance on the exemption from registration provided by Rule 15a-6 of the U.S. Securities Exchange Act of 1934, as amended (the “Exchange Act”) and is not being provided pursuant to a soft-dollar arrangement.

Any U.S. recipient of this research report wishing to effect any transaction to buy or sell securities or related financial instruments based on the information provided in this research report should do so only through Brasil Plural Securities LLC, a registered broker dealer in the United States with an office at 545 Madison Ave., New York, NY 10022, (212) 897-3737. Under no circumstances should any recipient of this research report effect any transaction to buy or sell securities or related financial instruments through Genial Institucional CCTVM.

Brasil Plural Securities LLC accepts responsibility for the contents of this research report, subject to the terms set out below, to the extent that it is delivered to a U.S. person other than a major U.S. institutional investor.

The analyst whose name appears in this research report is not registered or qualified as a research analyst with the Financial Industry Regulatory Authority (“FINRA”) and may not be an associated person of Brasil Plural Securities LLC and, therefore, may not be subject to applicable restrictions under FINRA Rules on communications with a subject company, public appearances and trading securities held by a research analyst account.

The disclosures contained in research reports produced by GENIAL INSTITUCIONAL CCTVM and distributed by Brasil Plural Securities LLC in the U.S. shall be governed by and construed in accordance with U.S. law. This report may not be reproduced or redistributed to any other person, in whole or in part, for any purpose, without the prior written consent of GENIAL INSTITUCIONAL CCTVM. Additional information relative to the financial instruments discussed in this report is available upon request.

UK Disclaimer:

(i) This document is STRICTLY CONFIDENTIAL to the recipient, may not be distributed to the press or other media and may not be reproduced in any form. this document is directed only at persons who are “INVESTMENT PROFESSIONALS” falling within article 19(5) of the FSMA 2000 (FINANCIAL PROMOTION) ORDER 2005, or HIGH NET WORTH BODIES falling within ARTICLE 49(2) of that order (together THE “RELEVANT PERSONS”). This document must not be acted on or relied on by persons who are not RELEVANT PERSONS.

(ii) The distribution of this document in other jurisdictions may be restricted by law and persons into whose possession this document comes should inform themselves about, and observe, any such restrictions. Any failure to comply with these restrictions may constitute a violation of the laws of any such other jurisdiction.

Copyright 2023 GENIAL GENIAL INSTITUCIONAL CCTVM