



Irani Papel e Embalagem S.A.

Investor Presentation

RANI3

B3 LISTED NM

Porto Alegre, October 2022





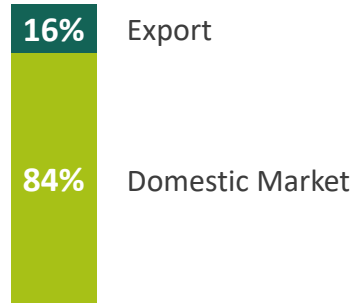
We are the only Brazilian pure player in the packaging segment listed on B3's *Novo Mercado*

8 decades
of experience

more than **50** environmental awards at regional and national levels

more than **2,200** employees

BRL 1.7 billion
Net Revenue LTM 3Q22



BRL 9.8 mm

Average Daily Trading Volume (ADTV 20)
average of the last 20 days,
as of Sep 30th, 2022

291

thousand tons of paper for sustainable packaging produced LTM 3Q22



Sustainable Packaging (Corrugated boxes)



Sustainable Packaging Paper (Paper)



Sustainable Resins (Gum Rosin and Turpentine)

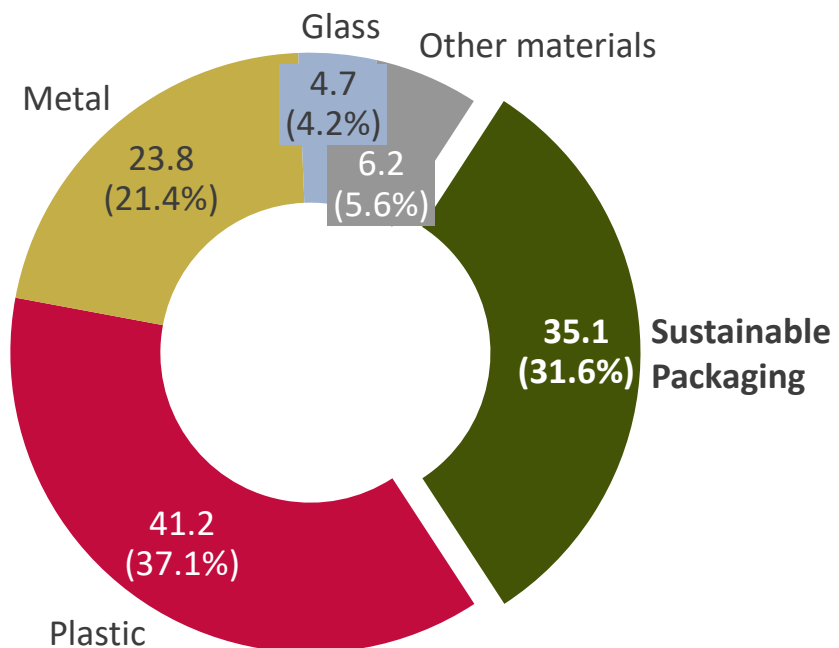


— The packaging market in Brazil totaled BRL 110.6 billion in 2021 and BRL 26.6 billion in the segments where Irani operates

Brazilian packaging market - 2021

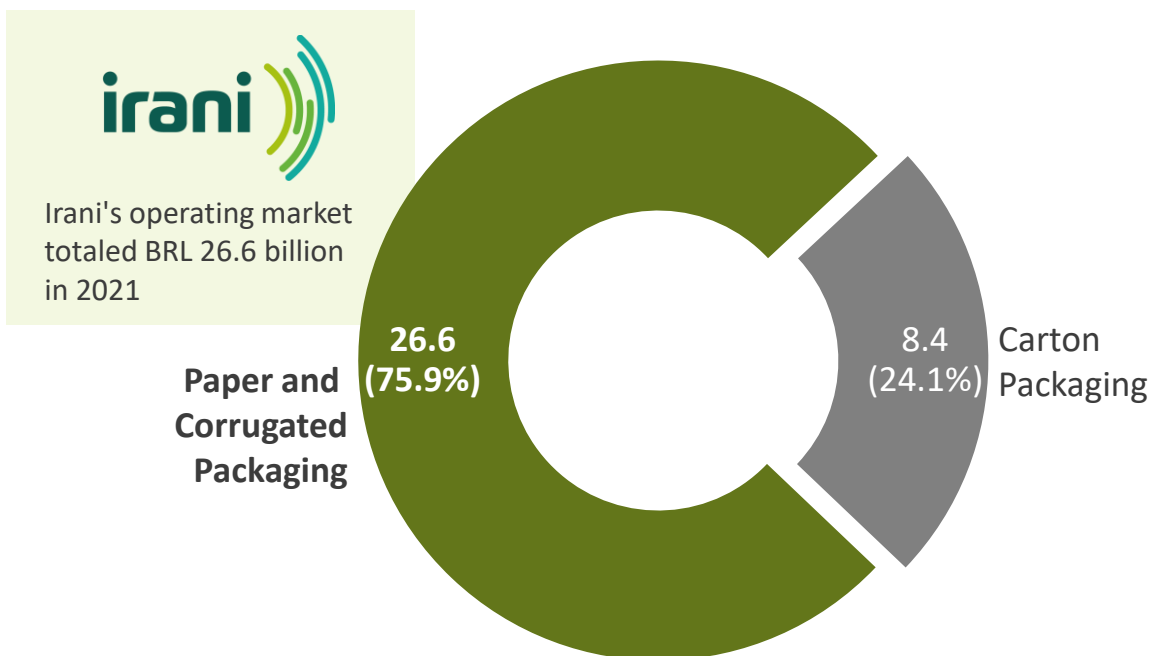
BRL billion

Total: BRL 110.9 billion



Brazilian sustainable packaging market – 2021

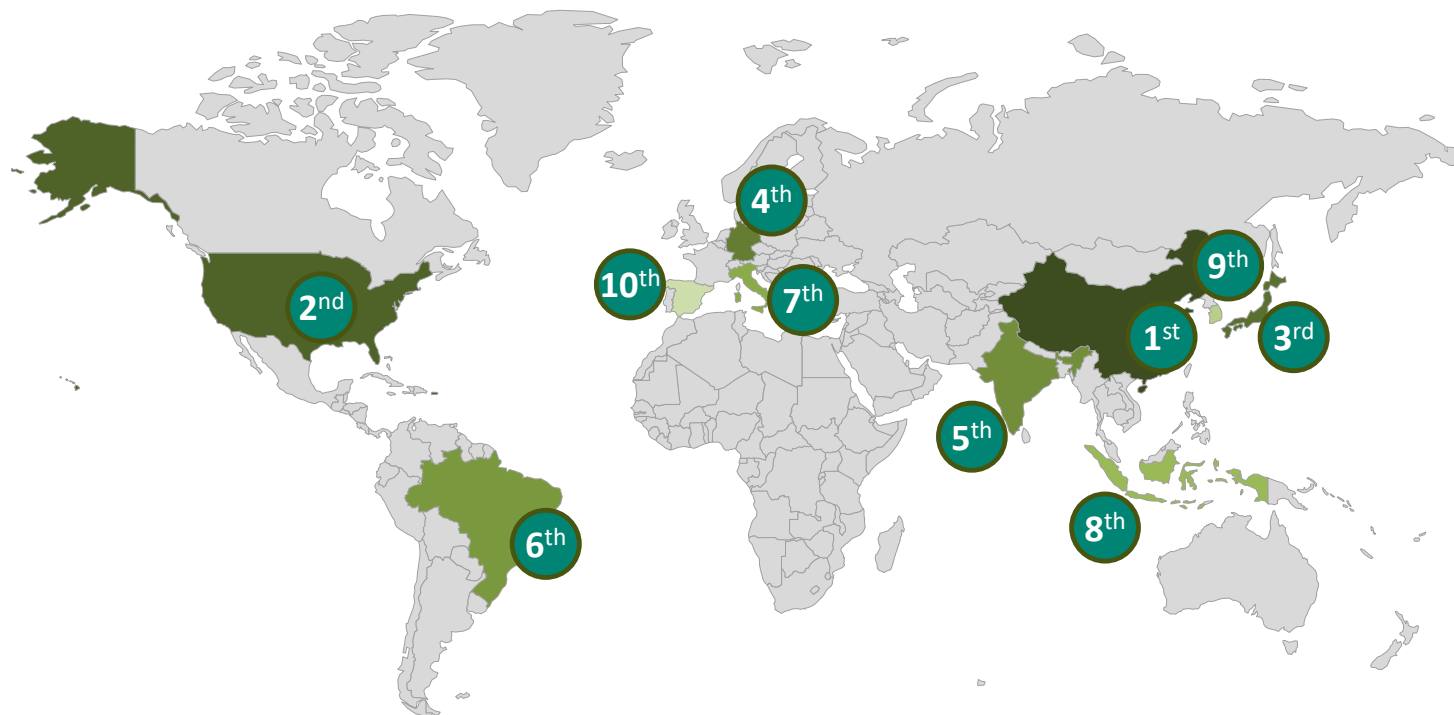
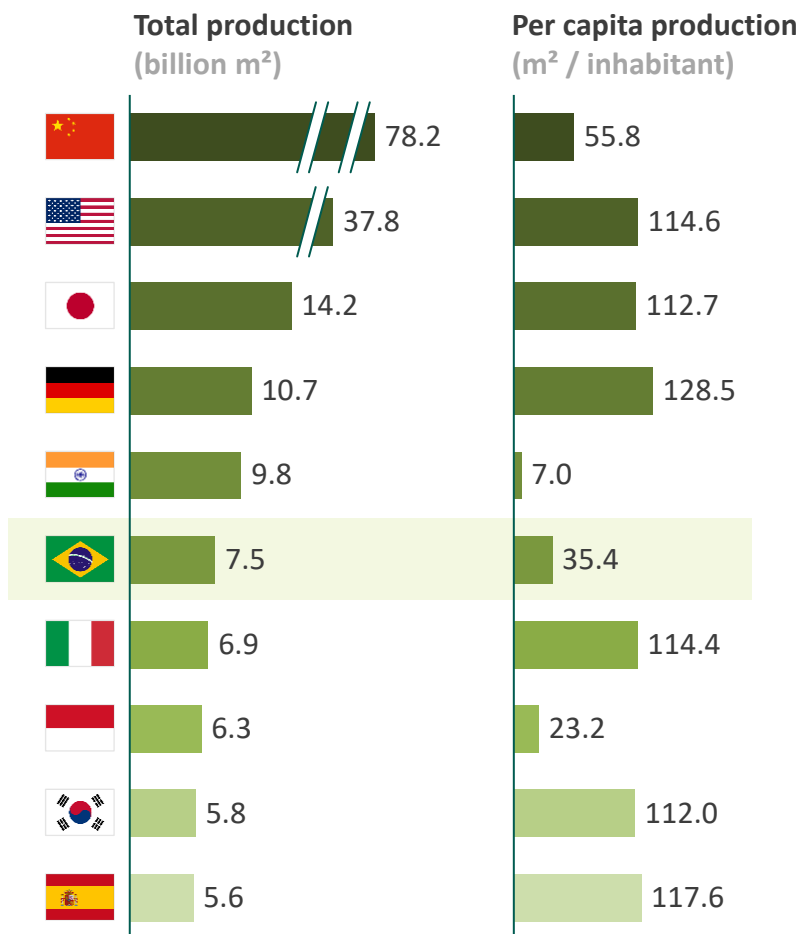
BRL billion





— Brazil is the 6th largest producer of corrugated packaging in the world and still has great potential to increase per capita production

Infographic of the 10 largest countries that produce sustainable corrugated packaging – 2020



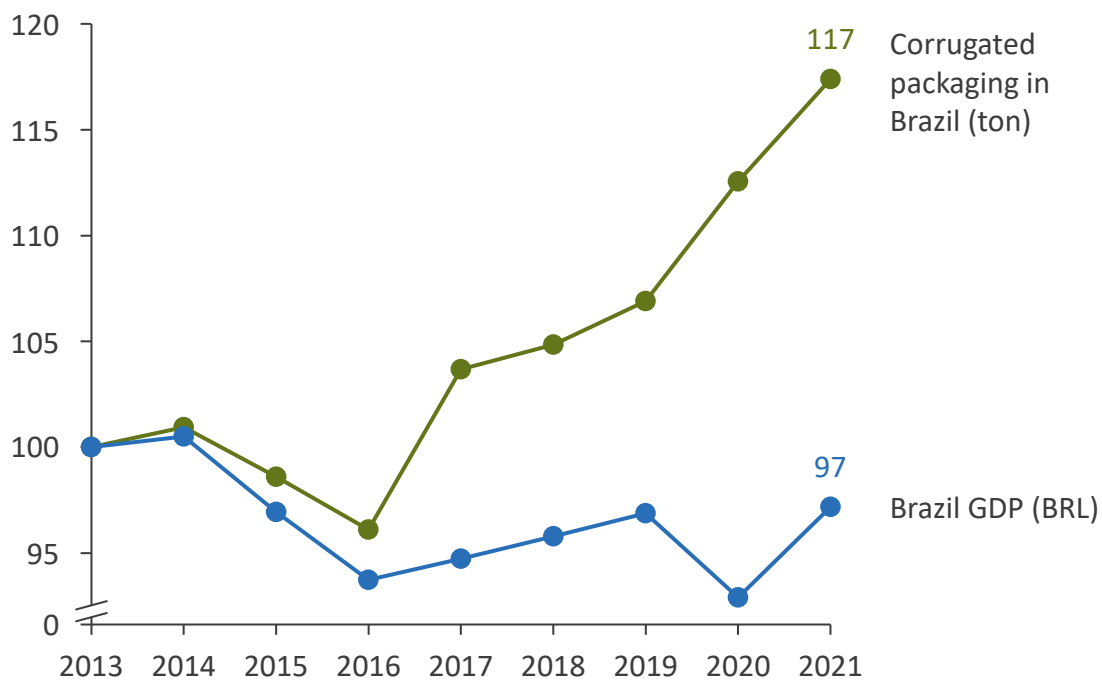
Note: corrugated packaging is a regional consumer product, typically within a radius of 300 km.
Source: International Corrugated Case Association ICCA.






The sustainable packaging market is driven by secular trends of sustainability and e-commerce growth

Comparison between sustainable packaging vs GDP

Evolution in base 100








Sustainable packaging market drivers

- I** Paper-based are the best solutions for packaging 
- II** Demand for sustainability: substitution of plastic for paper 
- III** Growth of e-commerce and delivery 

Fiber packaging is superior to alternatives

- ✓ Fiber packaging is renewable and easily recyclable, as well as it does not produce harmful gases during the recycling process.
- ✓ It is biodegradable and results in less environmental risk when discarded.
- ✓ It is economical, resistant and hygienic that protects the consumer's health.

	 Paper Fiber	 Plastic	 Styrofoam	 Metal	 Glass
Cost effectiveness					
Protection quality					
Recycling rate	86% ¹	18% ²			
Biodegradability					
CO2 emission					



Growing demand for sustainability and substitution of plastics

- ✓ Consumers want more than just quality, often looking for products and brands that align with their personal values.
- ✓ People strongly believe that companies should help improve the environment.



Example: Louis Vuitton has committed to replacing 100% of its single-use plastic consumption with sustainable packaging by 2030.



Example: Heinz announced in 2022 that it is developing paper fiber-based packaging for its products.



The rise of e-commerce and delivery are an important driver of sustainable packaging growth

7x

E-commerce consumes up to 7x more corrugated boxes per dollar of sales, compared to traditional retail.

80%

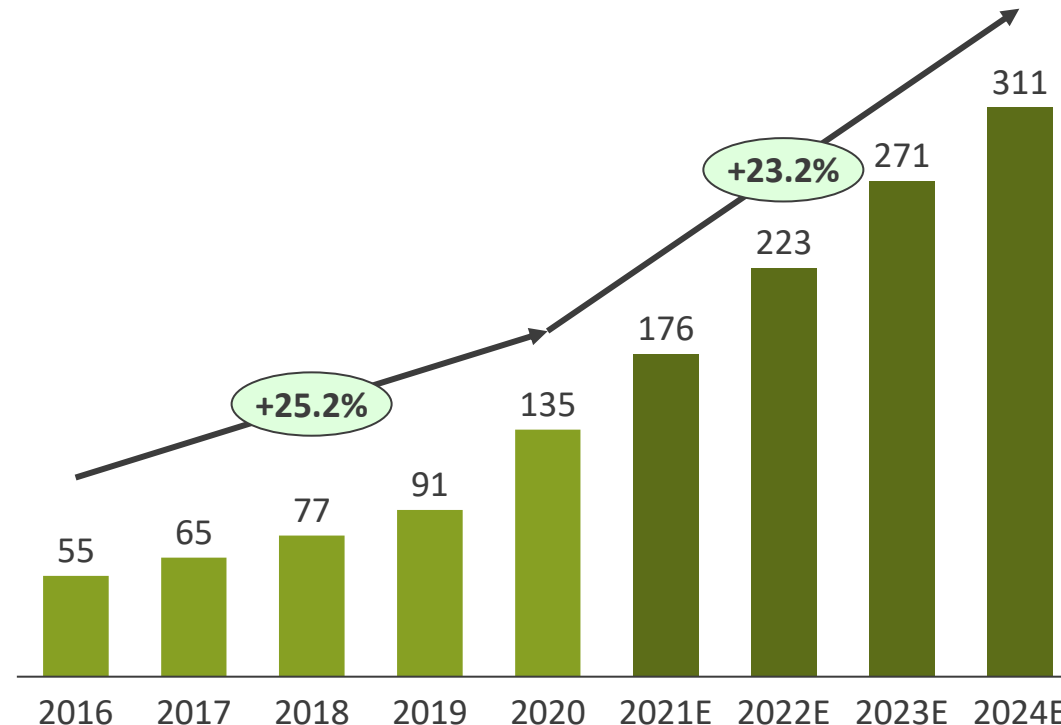
Sustainable corrugated packaging represents 80% of packaging used in e-commerce.

+23.2% p.y.

Brazilian e-commerce is forecast to grow at a CAGR of 23.2% in the period from 2020 to 2024.

E-commerce sales in Brazil

BRL Billion



89% of Irani's revenue comes from the sustainable packaging market



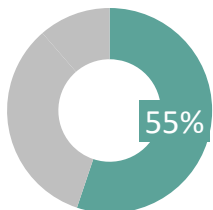
**Sustainable Packaging
(Corrugated boxes)**

Breakdown of Net Revenue LTM 3Q22

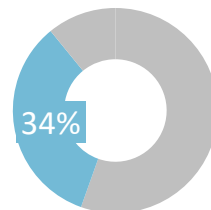
DOMESTIC MARKET
EXPORT



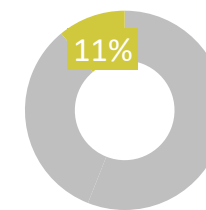
% of Net Revenue LTM 3Q22



**Sustainable Packaging Paper
(Paper)**










Sustainable Resins

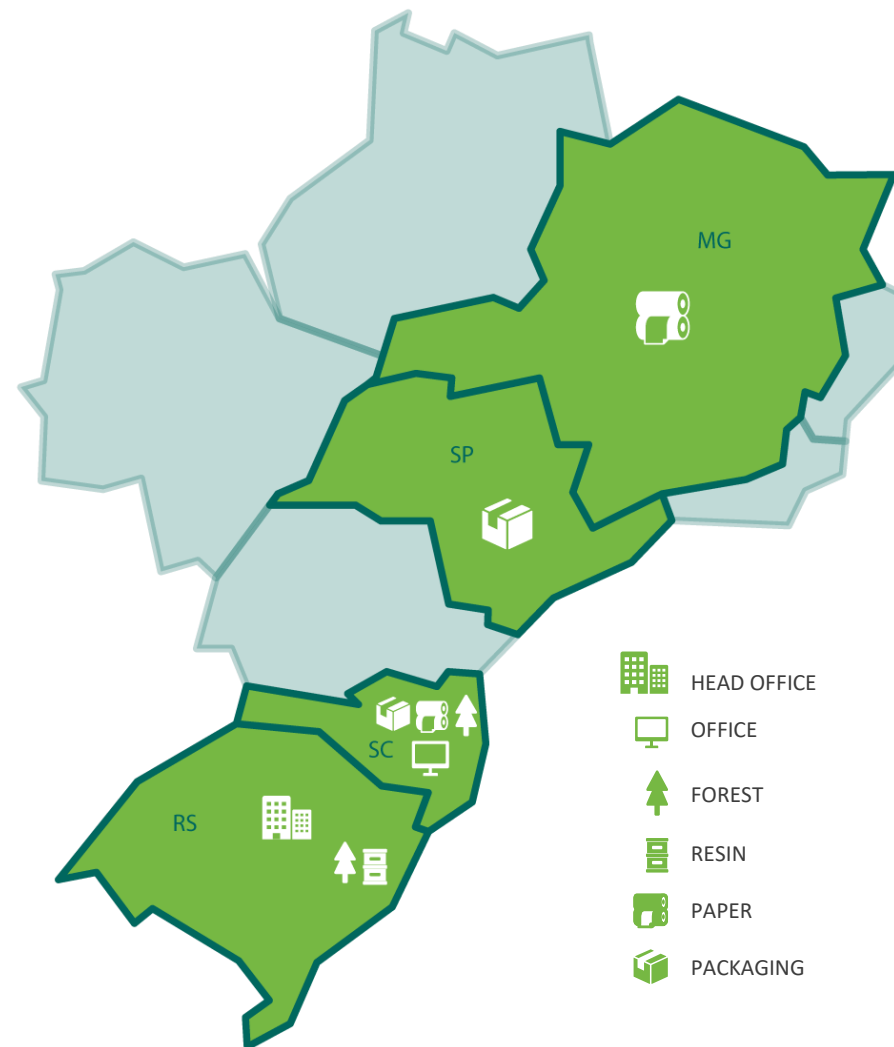




Mills and facilities are strategically located in the main regions of Brazil, in terms of GDP and forest base

 Forests	Land Area	Focus
SC Santa Catarina	27,947 ha	Pulp, market timber and energy generated from biomass
RS Rio Grande do Sul	5,952 ha	Resin and market timber
Total	33,899 ha	

	Total Production LTM 3Q22	Softwood Pulp	Sustainable Packaging Paper (Paper)	Sustainable Packaging (Corrugated Containerboard)	Sustainable Resin
 MG Santa Luzia		-	52k tons	-	-
 SP Indaiatuba		-	-	88k tons	-
 SC Vargem Bonita	89k tons		-	-	-
 SC Vargem Bonita		-	239k tons	-	-
 SC Vargem Bonita		-	-	69k tons	-
 RS Balneário Pinhal		-	-	-	14.5k tons
Total		89k tons	291k tons	157k tons	14.5k tons





— Main competitive advantages

1

The only pure player in the packaging segment in the Brazilian stock market

The only Brazilian publicly held company focused on sustainable packaging, in addition to being listed on B3's *Novo Mercado*

2

Circular economy business model

Complete insertion in a circular economy.

3

Own production of electricity and own forestry base

Guarantee of supply and stability in costs, resulting from our own production of electricity and our own forestry base.

4

Innovation at the heart of strategy

Pioneering in several innovation initiatives, reflecting in competitive differentials.

5

Excellence in the environmental, social and governance dimensions

Pursuit of excellence in all ESG spheres.



1a

Irani is the only Brazilian publicly held company focused on the sustainable packaging market

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The company does not sell pulp and is not subject to commodity pricing cycles.

The company has all its operations integrated with the production of sustainable packaging.

It is positioned in the value chain of the Brazilian market, meeting the growth of e-commerce, delivery services and retail activities, consumer goods and food.

Markets that drive the company





1b

The sustainable packaging pricing is not cyclical, and it is very resilient to turbulent economic times.

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FRED — Producer Price Index by Industry: Folding Paperboard Box Manufacturing: Folding Paperboard Boxes, Packaging, and Packaging Components



Shaded areas indicate U.S. recessions.

Source: U.S. Bureau of Labor Statistics

fred.stlouisfed.org



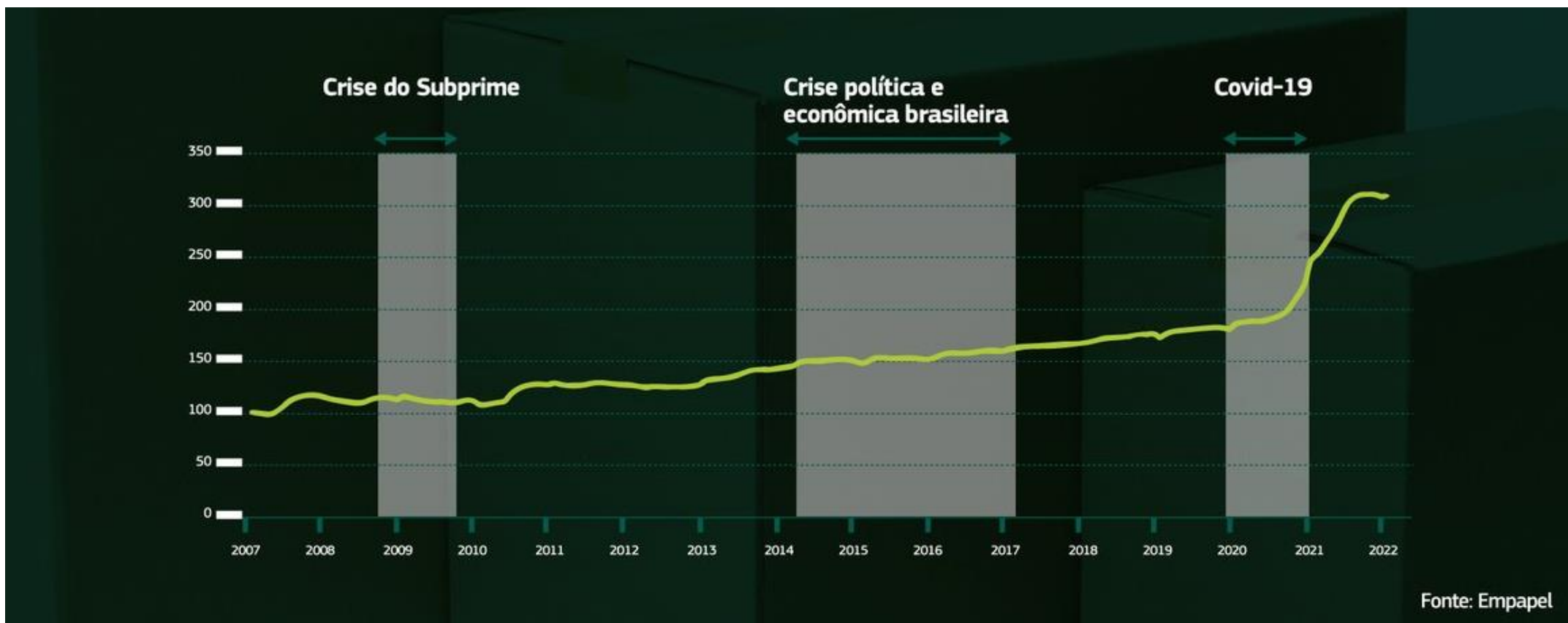
1c

The sustainable packaging pricing is not cyclical, and it is very resilient to turbulent economic times.

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Corrugated paper boxes average prices in Brazil (BRL/ton) – jan/2007 base 100



Note: In Brazil, average prices only started to be measured and published from Jan/2007, by the sector association (Empapel)

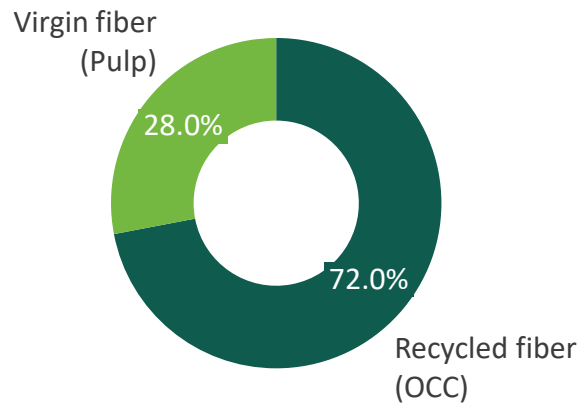
2

The company's business is fully immersed in the secular trend of circular economy

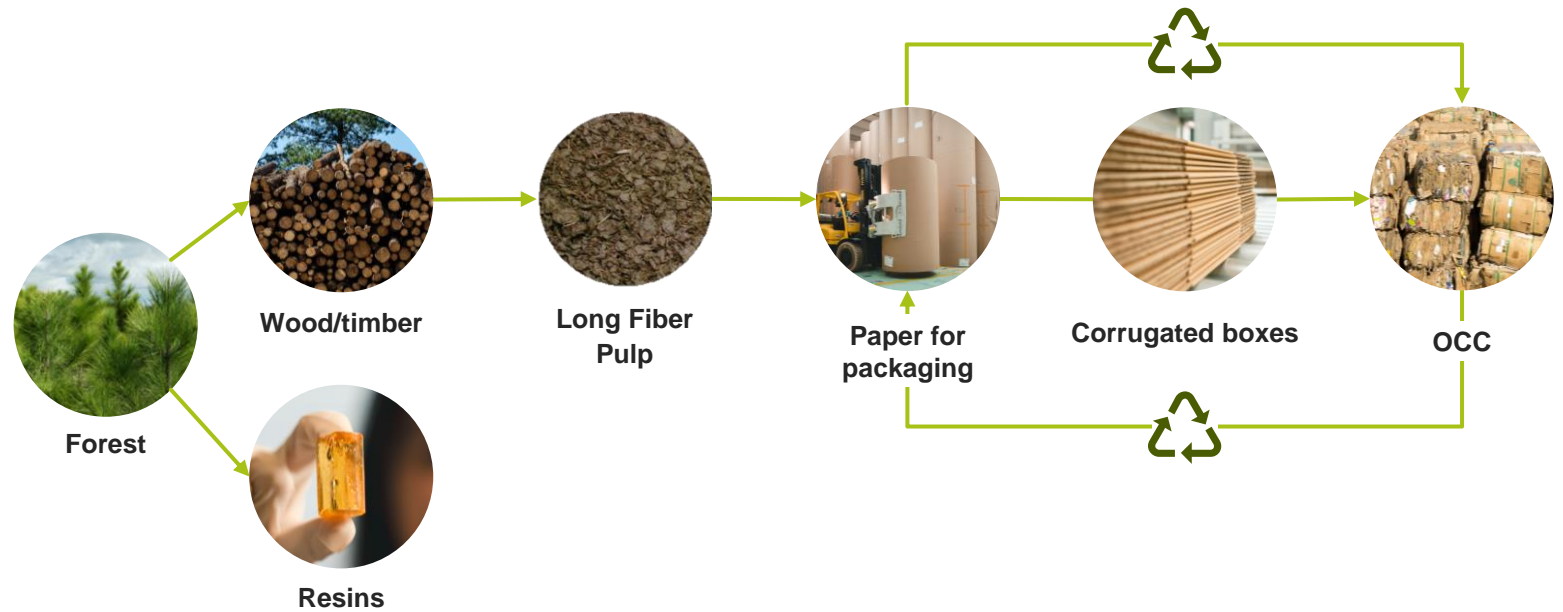
Raw material composition (LTM 3Q22)

% of volume consumed (Ton)

72.0% of the raw material is recycled fibers



Productive cycle of the company's operations





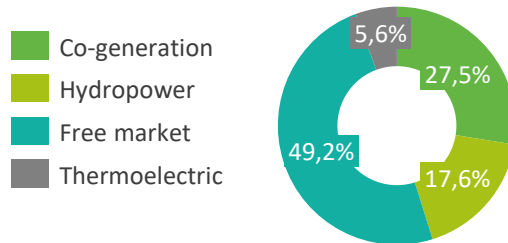
3

The company has its own production of renewable energy and its own land base

We will have 100% of our own production of renewable electricity after the Gaias.

In addition to not being exposed to the risks of energy supply in the country, we have become more cost efficient, with clean and renewable energy.

Electrical Energy Sources 2021

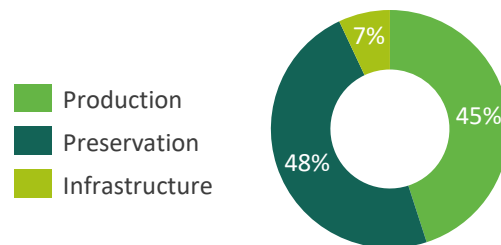


Electrical Energy Sources After the Gaias

With Gaia, we will have 100% of our own generation of renewable energy

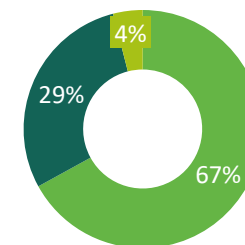
Our own forestry base gives us stability in the price of this raw material and guarantee of supply.

Own Land Base Santa Catarina

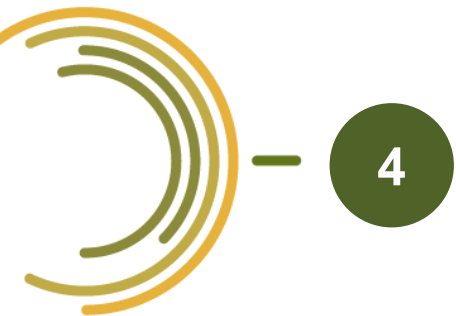


27,947 ha

Own Land Base Rio Grande do Sul



5,952 ha



4

Innovation is at the heart of Irani's strategy

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In-house Innovation

INOVA IDEIAS PROGRAM

6,464 Ideas generated since the beginning of the program

BRL 8.87 million

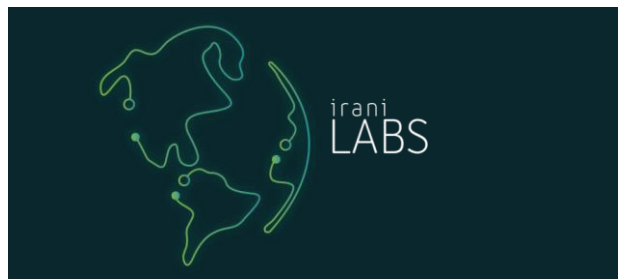
of operating return potential

TECHNOLOGICAL PLATFORMS

17 Main RD&I themes

48 Projects in progress

Connection with startups



227 Enrolled Startups

9 POCs held in two editions of the Program

2 Other POCs
Machine Learning Platform and Predictive sensing of equipment

Focus themes of the first edition:

Forest technologies;
Waste Management;
OCC collection and management;
New Business Models.

Focus themes of the second edition:

New materials and barriers;
Packaging design;
Customer Experience;
Industry 4.0.

Disruptive investments



BRL 10 million

approved for investments in disruptive startups with high growth potential



5

Irani is an ESG excellence Company by nature

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Environmental

Negotiation	Volume (CERs)	Generated Revenue (BRL)	Negotiation month
Customer 1	17,951	BRL 276 ths	Mar and Oct/21
Customer 2	71,134	BRL 295 ths	Mar/21
Customer 3	66,860	BRL 1,133 ths	Dec/21
155,945		BRL 1,704 ths	



231,837 tons of recycled paper (OCC)

Social



We are
Great Place To Work
For the third time in a row!



Top Ser Humano
Last 5 consecutive years, from 2016 to 2021 by ABRH/RS



More than
R\$ 1.5 million invested in education and training annually

Governance



IGCX B3
IGC-NM B3
ITAG B3
IBrA B3
IMAT B3

SMLL B3
IGCT B3
IGPTWB3
IAGROB3

Distribution of Dividends Policy: Up to 50% of the adjusted net profit.

Board of Directors: Five members, of which 2 are independent.

Executive Board: There are no overlapping responsibilities between the Executive Board and the Board of Directors.

Financial Policy: indebtedness, average debt term, cash balance and credit rating policies.

Board Committees

- Audit Committee
- People Committee
- Strategy Committee

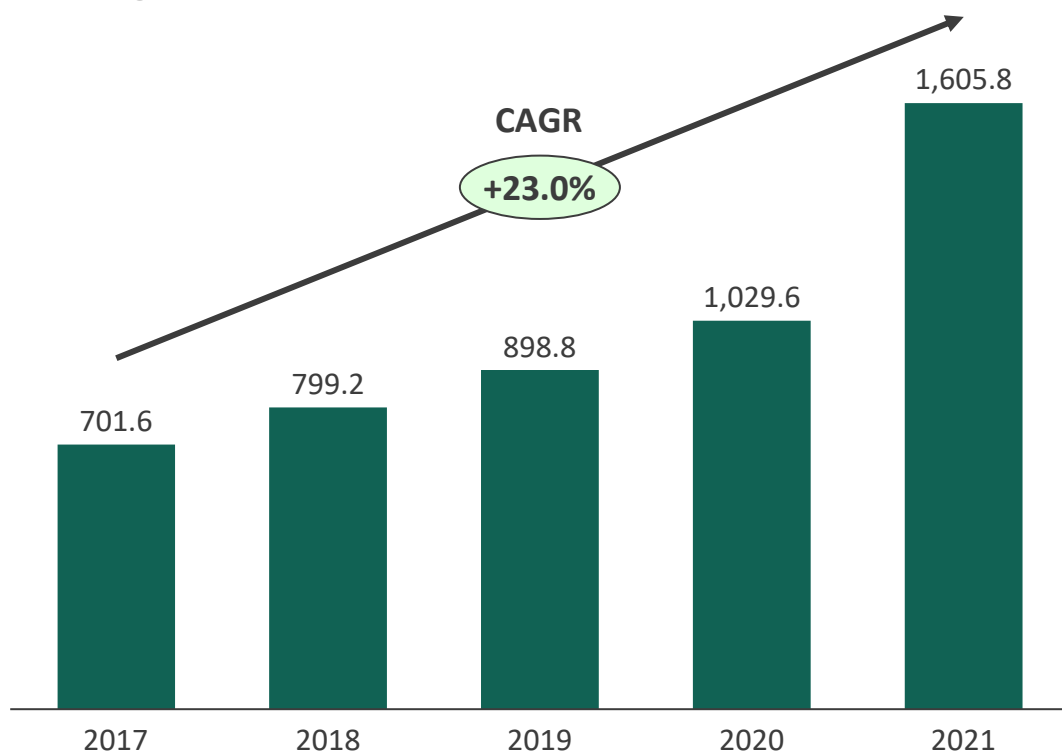
Financial statements audited by KPMG



Our competitive advantages support an accelerated pace of growth

Net Revenue

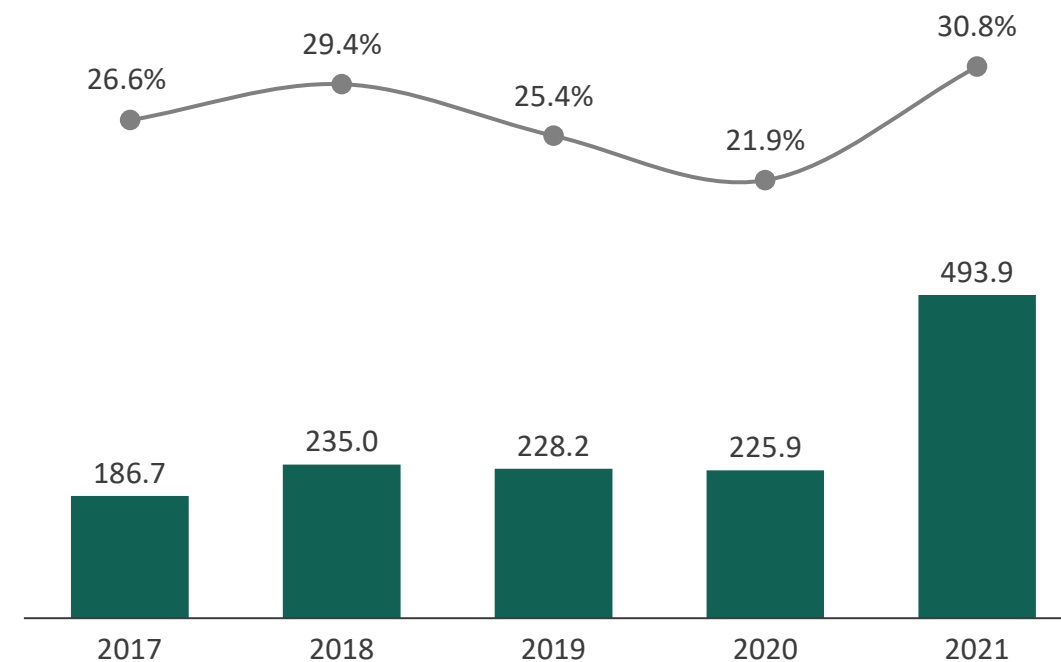
BRL million



EBITDA

BRL million

● % EBITDA Margin





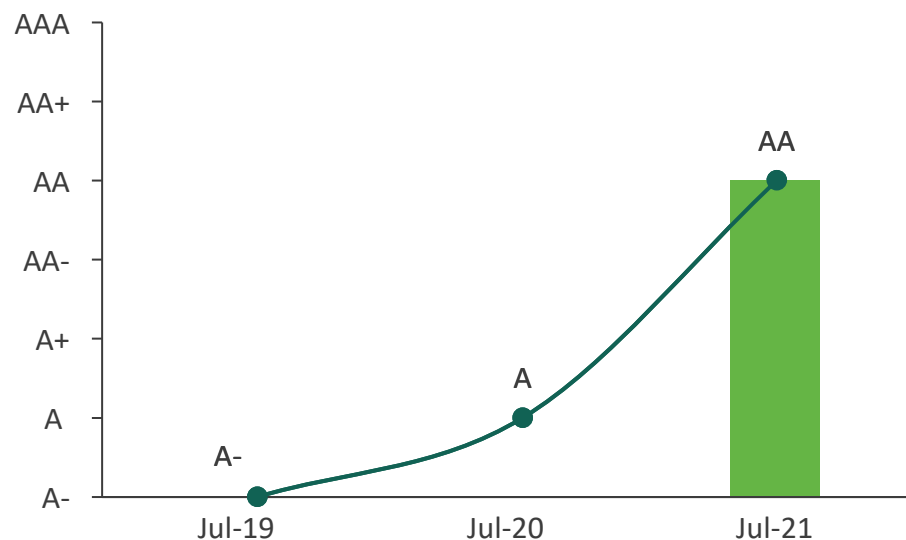
Generating value for shareholders

Green CRAs (Agribusiness Receivables Certificates)

- 5th Issuance of Green Debentures concluded in October/22, in the total amount of R\$ 720 million.
 - 1st series – R\$ 486 mm, 5 years, CDI rate + 1,40% p.y.
 - 2nd series – R\$ 234 mm, 7 years, CDI rate + 1,75% p.y.

National scale credit rating

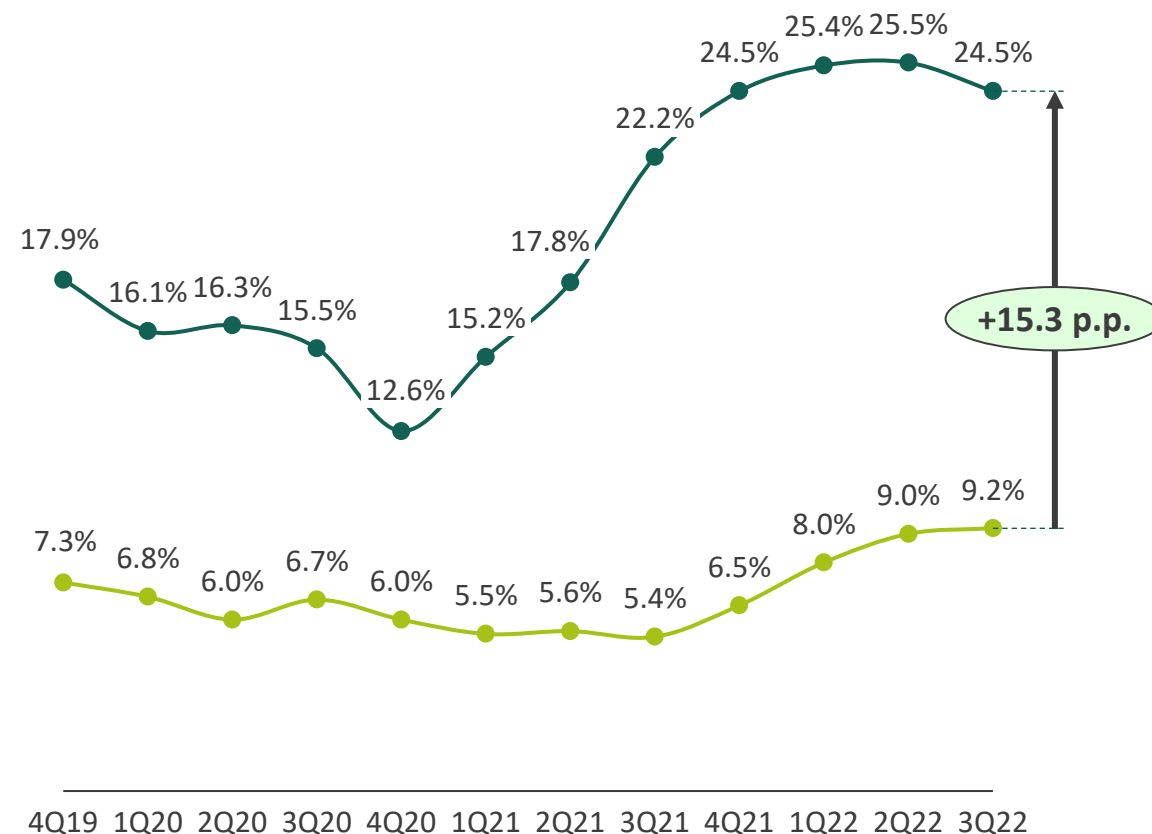
S&P Global Rating



ROIC and Kd after taxes

BRL million

ROIC Kd after tax shield





Very strong returns to our shareholders since our Re-IPO, even during turbulent times for the Brazilian stock market

Total Shareholder Return (stock price + dividends) since the Re-IPO





The Gaia Platform will lead to a significant improvement in the production mix, in addition to several operational efficiency gains

BRL 976 Million of investments

- Own production of renewable electricity
- Reduction of maintenance costs
- Reduction of chemical consumption
- Greater stability and performance of factories
- Downtime reduction
- Gains in forest management
- Increased printer productivity
- Scrap reduction

26.0%

of all energy consumed will be generated via a recovery boiler

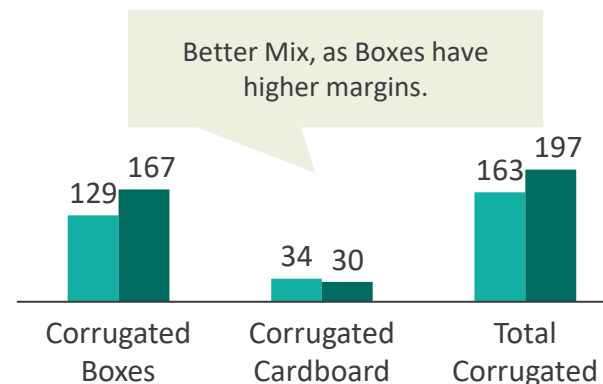
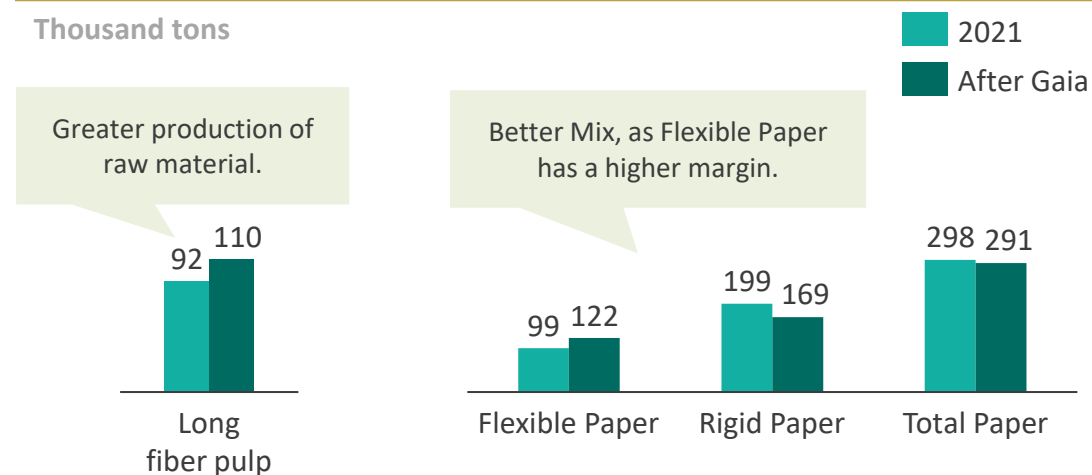
(use of the production process, that is, very low-cost energy)



[Click here to see more details](#)

Annual production

Thousand tons



20.0%

capacity increase on the corrugated containerboard production



— Irani has aggressive ESG targets for 2030, in line with its strategy

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1	OCCUPATIONAL SAFETY	Zero work accidents with leave	3 SAÚDE E BEM-ESTAR
2	DIVERSITY	Having 40% of women in the company Having 50% of women in leadership positions	5 IGUALDADE DE GÊNERO
3	WATER	Reduce water consumption by 30% per ton produced	6 ÁGUA POTÁVEL E SANEAMENTO
4	ENERGY	Being self-sufficient in renewable energy generation	7 ENERGIA LIMPA E ACESSÍVEL
5	WASTE	Stop waste shipment to landfill	12 CONSUMO E PRODUÇÃO RESPONSÁVEIS
6	CLIMATE CHANGES	Increase the positive balance between emissions and removals of Greenhouse Gases (GHG) by 20%	13 AÇÃO CONTRA A MUDANÇA GLOBAL DO CLIMA









Links to more information


Websites:

-  [Investors Relations Website](#)
-  [Gaia Platform](#)

Other documents:

-  [Integrated Report](#)
-  [Financial Statements](#)
-  [Reference Form](#)
-  [Historical operating data](#)

Presentations:

-  [Institutional Presentation](#)
-  [Results Presentation](#)
-  [Earnings Release](#)



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