



2017
sustainability
report

embracing the

future



The moment has arrived for our business to initiate a new phase of growth and profitability. Through our strategic planning for the 2018-2027 cycle, we have structured a plan to strengthen our market positioning and build the future. How?

With the improvement of our processes, we now are focused on the environmental, operational and financial efficiencies that boost our competitiveness.

With the culture of innovation and continuous progress, we strengthen a workplace environment that encourages good performance and that is results-oriented.

With the promotion of a number of actions that impact the communities in which we operate, we are a benchmark company when it comes to sustainable practices.

These attitudes reflect the way we think.



2017 sustainability report

embracing the future

We believe that the future is only built through prosperous relations with all our stakeholders, employees, customers, suppliers, shareholders, community and society. It is because of everything that we are doing in the present that we are embracing our tomorrow.

We prepared a special infochart that presents 2017's main highlights. Available at:
<http://www.relatorioanualirani.com.br/2018/summary-table.pdf>

Message from the CEO

In 2017, the Brazilian economy began to show signs of recovery and, of course, the Pulp and Paper sector accompanied the trend with its own improved results, especially as of the second half of the year. Demand strengthened and the cost of OCC (Old Corrugated Container), which had a strong negative impact on the companies' results in 2016, performed better, albeit slightly above the historical average. With this and also due to various initiatives the company put into place — mainly reducing costs, achieving productivity gains and improvement of its management system — Irani's results have been evolving both continuously and consistently. We are quite optimistic.

For us, 2017 was also a year of important internal changes. As of July, I took over as CEO, succeeding Péricles Pereira Druck, who now chairs the Board of Directors. It was a natural and planned succession. Péricles leaves as a legacy a sustainable, competitive, highly professional company that is prepared for a new cycle of growth and prosperity. In addition, we restructured the company's executive board, now composed of five officers, all coming from Irani's own staff.

Furthermore, we are engaged in a strategic review for the next 10 years - the 2018-2027 Cycle. We adapted our strategic intention - mission, vision and values - to new challenges. We reaffirmed our conviction in our mission to "build valuable relationships" with all stakeholders as the underpinning of the whole strategy. These are relations that are prosperous, based on trust and that take into account the interests that touch everyone involved. We deeply believe in the process of creating value over time, generated through meaningful relationships with customers, suppliers, employees, investors, governments, competitors and communities.

For the new cycle, the priority we have decided on is to seek financial returns higher than the cost of capital by generating value for our shareholders. We will also seek to ensure excellence, bolstering a culture of learning, innovation and continuous improvement. We will promote a stimulating workplace environment for the development of high-performance teams. We will strengthen our marketing position as a company of excellence, with high-quality products and services and offers of value with the customer as our focal point. And we will promote the circular economy in the value chain, ensuring the adequate disposal of all industrial waste.

We have published sustainability reports for the past 12 years. We consider the systematic monitoring, through recognized methodology, of the evolution of the company's financial, social and environmental performance to be a fundamental business practice. When we present our accounting results and publicly commit ourselves to evolution in the many indicators that are monitored, we also are fostering an environment of engagement, commitment and continuous and sustained improvement.

Our certifications are another highlight. Our management of the forestry base of 41,653 hectares (67% in Santa Catarina and 33% in Rio Grande do Sul) is certified by the Forest Stewardship Council® (FSC) (C020437). Thus, our forest operations are administered according to the best practices and we guarantee the preservation of biodiversity. Irani was the first company in the resin sector whose forestry management and chain of custody for resin processing was certified by the FSC (C120229/C116791), in addition to ISO 9001 and ISO 14064 certifications. In the


Corrugated Containerboard Packaging Business, we have ISO 9001 and 14001 and FSC certifications (C009947/C125040). We value each accreditation as an opportunity to add value by improving our management system and aligning with best practices.

In 2017, we obtained several awards and recognitions that not only made us very proud, but also, and mainly, confirmed the correctness of our activities in several areas. Particularly notable was the Catarinense Excellence Award-Diamond Trophy, which recognizes companies that have strong management systems. We were also recognized as one of the best companies in which to work in Rio Grande do Sul and Santa Catarina by the Great Place to Work institution. In the field of innovation, we won the Innovation Prize awarded by PGQP, in the "Moving Towards Innovation" category. And we received the prestigious Eco Brasil Sustainability awards for our case history about plastic recycling and the Fritz Müller Prize for the reuse of coal waste, both innovative processes that strengthen the circular economy in the value chain.

We are signatories to the Global Compact and our newly revised strategy is aligned with the United Nations' Sustainable Development Goals (SDGs). Since 2007, we are signatories to the Business Pact for Integrity and against Corruption. In line with this purpose and attentive to the country's political scenario, in 2017 we launched our Integrity Program, a document that presents our policies and guidelines for relationships with a wide variety of audiences.

The economic recovery got underway in 2017 and the important political changes that will take place in Brazil this year are leading us to remain very optimistic. The theme of this year's report, "Embracing the Future," unambiguously reveals the enthusiasm and leadership we seek in the coming years.

Enjoy your reading!



SÉRGIO LUIZ COTRIM RIBAS
CEO



higher
energy

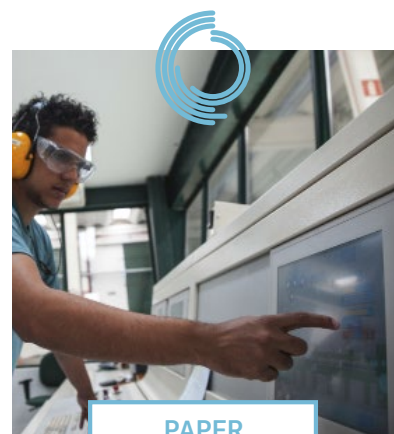
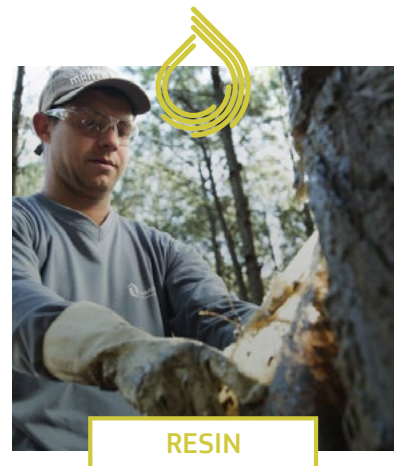
Strategic Direction

To embrace
the future is
to plan the
business' growth
and profitability.

(102-2) **Our Businesses**

We are one of the leading national industries in the paperboard packaging and corrugated packaging segments, listed among the best companies to work for in 2017, according to GPTW® in the states of Santa Catarina and Rio Grande do Sul. In 2017, we received 10 awards and recognitions.

Learn more about our businesses:

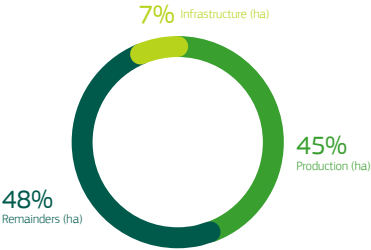
**FORESTRY****PAPER****CORRUGATED
CONTAINERBOARD
PACKAGING****RESIN****Forestry**

Forests are the essence of our businesses. Our base is comprised of 41,653 hectares of land, 67% in Santa Catarina and 33% in Rio Grande do Sul, duly licensed by the appropriate agencies and managed by the *Forest Stewardship Council®*, thus ensuring the adequacy of our forestry operations, the preservation of biodiversity and respect for nearby workers and communities.

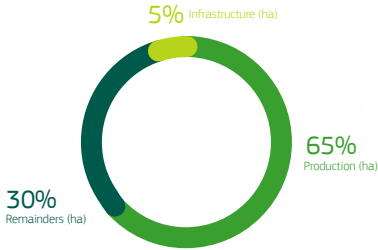


We are in the third cycle of FSC Forest Management certification. Underlying this certification is a lot of work by our teams, including health and safety campaigns for our own and outsourced employees, fulfilling the requirements of the labor legislation. There is also support for the demarcation of permanent preservation areas (PPAs), monitoring of fauna and flora, products and studies in partnership with educational institutions, relations with communities toward the environment, mapping socio-environmental impacts and dissemination of the Public Summary of Forest Management is available for consultation at: <http://www.irani.com.br/en/irani/bussines-area/forestry/>

Use of soil in SC



Use of soil in RS



Forestry Management

Rio Grande do Sul



Santa Catarina



In Santa Catarina, the main objective of the forestry business is to supply the Paper Unit - SC with *Pinus taeda* for the production of pulp and with Eucalyptus biomass for the generation of energy in the Cogeneration Boiler. In the regional market, we sell reforested wood to veneer mills and sawmills.

Distributed in the municipalities of Água Doce, Catanduvas, Vargem Bonita, Ponte Serrada and Irani, the areas' total 27,939.96 hectares of own land and 1,040.93 in partnerships.

The highlights in 2017 included:

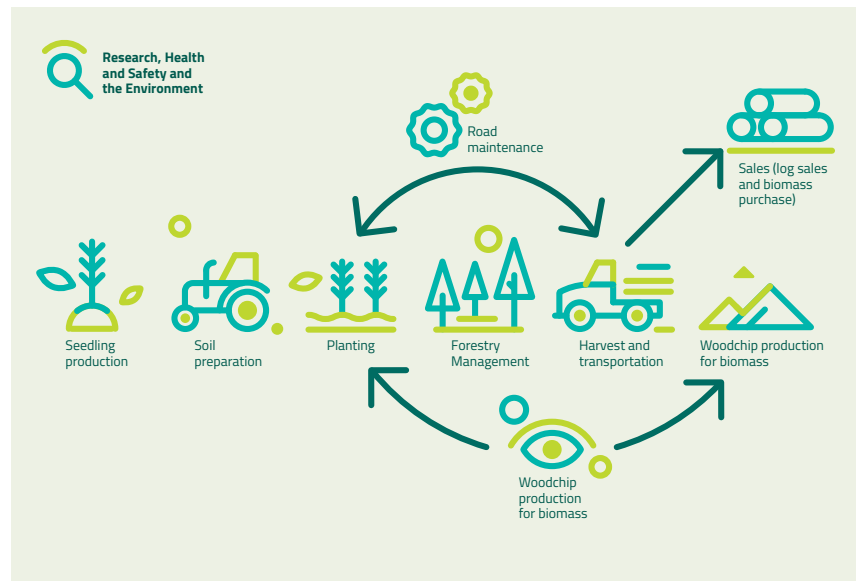
- ⁽¹⁰²⁻¹⁰⁾ Conclusion of a contract for the purchase and sale of forest assets that included the sale of Fazenda São Pedro, in Água Doce (SC), with approximately 1,520 hectares of total area, as well as 801 hectares of forests of this property and 1,054 hectares of forests planted in partnerships with the owners. In this negotiation, we maintained the right for exploitation of Fazenda São Pedro, and we entered into a contract with the buyer to provide forest management services in all the forests in the transaction. See more in:
http://ri.irani.com.br/uploads/comunicado_ri/c92ace7e6edaf05e41a66f2a48336ddfdb9612d5.pdf
http://ri.irani.com.br/uploads/comunicado_ri/a1c071e1731f044bb63644c1b9a85348eabf691.pdf
- Consolidation of the gains in the forestry raw materials energy efficiency project and improvements in performance, reducing the percentage of sawdust from wood chips used for power generation, achieving lower humidity indexes.

-
- Legalization of our landholdings certified by the National Institute of Colonization and Agrarian Reform (INCRA) and finalization of the necessary registrations are scheduled for 2018.
 - Five events together with Kaizen, with an emphasis on management of seed planting routines and operational efficiencies.

The challenges continue in 2018. We will focus on actions aimed at boosting productivity and reducing operating costs, with improvements in quality and occupational health and safety compliance rates.

(102-15, 304-2)

Find out more about Forest Management in SC by clicking the icons:



Seedling production

(304-2) We control the dispersal of invasive species in native forest areas, following annual scheduling and improving our control tools.

We acquire selected Pinus and Eucalyptus seeds with superior genetic materials. Sent to our own forest nursery in Vargem Bonita (SC), they are cultivated for a period ranging from 8 to 12 months, until ready for planting.

Seeds from native species such as Araucaria, Imbuia and Butiá are harvested from trees in our forests or forested areas from around the region, respecting the local ecosystem, used for subsequent cultivation in our own Nursery and applied in the recovery of degraded areas, forest enrichment in stages and donations to our stakeholders.



Soil preparation

Before starting planting activities, an outsourced company initiates soil preparation activities by opening grooves using subsoiling techniques. In the steepest areas, our own teams are responsible for manually opening seedling pits.



Planting

Our planting teams are equipped with special, ergonomically appropriate equipment designed to safely carry out the planting operation, with proper spacing between the seedlings and using correct transportation practices.



Road maintenance

Before planting and harvesting operations are conducted and/or, whenever necessary, the roads are maintained to enable wood transportation and assure their safe use for the surrounding community.



Research, Health and Safety and the Environment

Our Forestry Planning team actively engages in silviculture and harvesting activities with guidance on health, safety, environmental and operational aspects, preventing potential impacts. It is also responsible for georeferencing activities, updating the forest registration database and forest inventory.

The Occupational and Environmental Health and Safety Report (SSOMA) encourages a safety culture through the identification of deviations and the generation of data to take corrective actions, minimizing risks and improving working environment conditions. It also assists in monitoring the environmental impacts generated by forest operations and in monitoring the local fauna. Since implementation of this practice, in 2014, we recorded more than 213 observed deviations in occupational health and safety that were dealt with during critical analysis meetings, while 390 field observations of animals were registered.



Forestry Management

In a period of up to 45 days after planting the seedlings, we monitor the effectiveness of the subsoiling, hole digging, planting and spacing processes and verify the seedling survival rate.

When the planted areas reach four years, we conduct an inventory to measure forest and planted area growth and calculate the biological assets' productivity. This inventory is updated every three years, evaluating the performance compared to prior cycles and production increases.

Battling ant encroachments in the Pinus plantations occurs after planting, followed by four monthly interventions, respecting the intensity judged to be applicable for each planted area. Eucalyptus requires different management techniques: pre-planting and differentiated fertilization (one at the time of planting and two after the 30- and 90-day intervals) according to external analysis of soil nutrient requirements.

Control of pests, such as wood wasps, begins as of the fifth year after planting.



Woodchip production for biomass

We constantly monitor and conduct surveillance in our planted areas. Preventively, we maintain firebreaks (unplanted land that hinders the spread of fire) and we have teams of volunteers trained to promptly act when there are outbreaks, communicating with the proper authorities to request reinforcements, when necessary. We also man our own surveillance tower and fire truck and for over 10 years have been signatories with the Irani (SC) Volunteer Fire Brigade to train our teams to deal with forest fires and other events. Our own staff conducts company property surveillance.



Sales (log sales and biomass purchase)

In the regional market, we resell reforested wood to lamination mills and sawmills.



Harvest and transportation

The harvest occurs when a planted area reaches 15 years. It is a mechanized process, operated by a service provider responsible for the cutting, dragging, routing and loading of the wood and wood chips.



Woodchip production for biomass

In 2017, involving an investment of approximately R\$ 2 million, we prioritized the production of biomass from forest waste, comprised of branches, tree tips and wood remains deriving from the process. All this material is gathered and processed into dry wood chips in a mobile crusher, making the process more dynamic and reducing operating costs.

CURIOSITIES OF THE SC FORESTRY BUSINESS

- With the help of planters, the planting of up to 20,000 seedlings per day is achieved in areas totaling approximately 10 hectares.
- Do you know the difference between logs and loglets? Logs are pieces of trunks that are over 28cm in diameter, which we sell to laminating mills and sawmills. For their part, a loglet measures between 8-28cm and is used for the production of wood chips, which is the kickoff for the paper manufacturing process.
- Our Forest Nursery has the capacity to produce up to 6 million seedlings per year.
- The planting of Pinus is conducted throughout the year, whereas Eucalyptus is planted between October and December, due to frost risk.
- The management cycle, from planting to final cutting, is 15 years for Pinus and seven years for Eucalyptus.
- In 2017, we donated over 9,200 seedlings to stakeholders, an investment of more than R\$ 9,000.

Forestry / Resin

We were the first company in the resin segment whose forest management and chain of custody for resin processing is certified by the FSC® (C120229/C116791). We also have ISO 9001 and ISO 14.064 certifications.

Habitasul Florestal S.A., controlled by Irani, owns 13,714 hectares on the north coast of Rio Grande do Sul, distributed in 14 properties in the municipalities of Balneário Pinhal, Cidreira, Mostardas, Tavares and São José do Norte. The planting of *Pinus elliottii* totals 8,355 hectares, from which we extracted the raw material used in the gum resin production process.

35% of the
Company's total
planted areas

Our forests are managed for the production of logs and loglets to meet the needs of regional industry and the production of gum resin destined to supply the productive processes for making pitch and turpentine. Resination is a way of anticipating a forest's revenues, generating direct jobs and contributing to convincing people to remain and work in agricultural regions.

The Customer Focus concept is applied in its essence and lets us understand our customers' processes and the application of their products. With that, based on our experience and knowledge, we can offer the best solutions.

Using clearcutting methods, we define the post-harvest area recovery method: natural regeneration or through seedling planting. The forest management system we have adopted encompasses 21-year cycles:





Natural regeneration takes about three years, and only requires pest control by the Company. For its part, mechanical preparation of the soil is needed prior to the planting cycle; it can be completed in just three months.

In the case of natural regeneration, on a given stand (demarcated area for forest activity) we conduct manual and mechanized selection at three and five years of age to ensure the best trees are maintained for the production process. This stage does not occur in areas planted with seedlings.

In the case of planting, we conduct initial preparation of the soil through mechanized means and we plant 1,667 seedlings per hectare.

Upon reaching 10 years in both systems, trees that do not meet the standards for resin are culled and sold in the regional market. The logs are sent to sawmills and the loglets go for production of MDP and MDF sheets produced by the furniture industry.



Resination: upon reaching 12 years, the forest is ready for the resination process. We started the manual grooving activity on the trunks of *Pinus elliotii* trees, through which the resin is extracted. This process lasts eight years, followed by a year of rest and the close-cutting of the area when it turns 21.

The resin extracted from our forests is earmarked for processing in the RS Resin Unit and corresponds to about 24% of the demand for our gum rosin and turpentine manufacturing process. The rest of the demand comes from small producers in the immediate vicinity and the domestic market.



Processing: the gum-resin extracted in the forests goes through the malaxing, filtering, decanting and distillation processes, when the pitch and turpentine are separated. Pitch is a solid product packed in metal containers, raffia bags or paper and turpentine is stored in specific tanks because it is a liquid product.

The pitch is used for applications in products such as glues, adhesives, soaps, enamels, electrical insulation, chewing gum, waxes and expectorants. Turpentine is used as a solvent in paints and varnishes, the manufacture of dyes, waxes, disinfectants (pine oil), camphor, soaps, insecticidal greases, seals and perfume fixatives, among others.

Monitoring socio-environmental impacts in operations

During the forest management activities we conducted prior and post monitoring of operations to identify their socio-environmental impacts. In addition, with support from outside consultants, we assessed the socio-environmental impacts in our surrounding communities. The next research cycle will be in 2018.

Among the main identified impacts include: improvements in the rural road system of the towns, dispersion of *Pinus* in the outlying areas and generation of employment and income for the region. When negative impacts are identified, we apply mitigating and preventive measures, aimed at mitigating and preventing new occurrences. Our teams also keep dialogue open with community representatives, seeking to understand their aspirations regarding preventive and corrective actions.



Close-Cutting: after 21 years of the management cycle, we cut the trees (shallow cut) for sale to the regional market.

CURIOSITIES OF THE SC FORESTRY BUSINESS

- The resination operation has been consolidated in Europe for many years. It was brought by the Portuguese to Brazil between the end of the 60's and the beginning of the 80's.
- Our unit was the first rosin and turpentine factory in Brazil.
- In the resination process, a tree is divided into four faces. Over a 21-year cycle, it is possible to exploit two to three faces per tree. On each face it is possible to make 72 grooves over a period that includes between six and eight harvests.
- The resin that flows through the grooves is collected in bags attached to the trees.
- The older the tree, the better the quality of the resin extracted.
- One employee can make about 1,700 grooves per day. For this, he walks an average of 7.6km/day.
- The average resin collected in the 2016-2017 harvest was 2.780kg per tree.

Throughout 2017, we made investments in civil infrastructure that sought to optimize processes, enhance operational safety and the environmental suitability of the Resin Unit RS - Balneário Pinhal. Among the projects developed, the following stand out:

Investments	Gains
Reform and expansion of the unit's chemical analysis laboratory	Guarantees compliance of our products to the requirements established by the customers.
Reform and replacement of the unit's roof	Operational safety, aesthetic improvement and protection against the entry of pests and the optimizing of processes to comply with good industrial practices.
Redesign and reform of the hydraulic system	Better working conditions, guaranteeing the quantity and quality of water required for the production of rosin and turpentine in the mill's distillation stage.
Revitalization of the mill's interior floor paving	Environmental protection, opportunities for optimization of activities, aesthetic improvements, 5S and good manufacturing practices.
Improvement of industrial effluent treatment	Reduction in the emission and reutilization of the calorific value of water from the distillation process in other process stages.

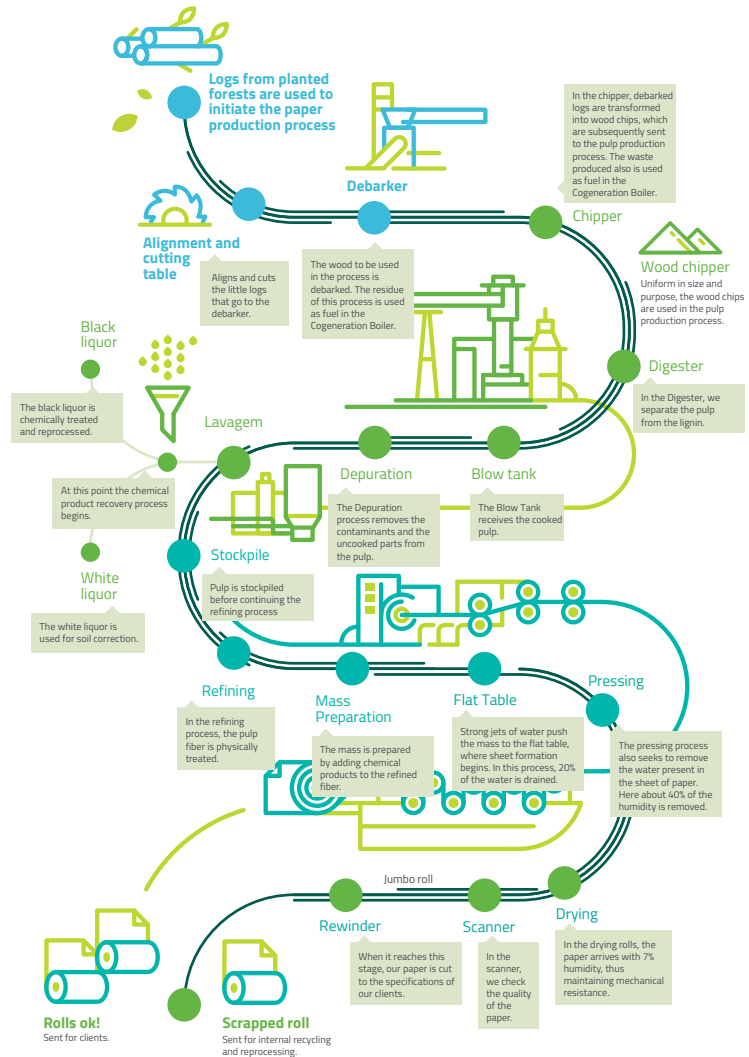
We also started work on reforming and adapting the terebentine storage tanks, scheduled for completion in 2018, and a full preventive project for all of the units, programmed for 2018 and 2019.

In February 2017, a forest fire broke out in an area belonging to the Company in the city of Cidreira (RS). Over the course of six days, 300 employees, emergency brigades, civilian and military firefighters, with the support of 18 vehicles and other companies from the sector, worked incessantly to quell the outbreak. The total area affected was 1,255 hectares, resulting in a negative impact on Habitasul Florestal'ss biological assets totaling R\$ 5,384,000.

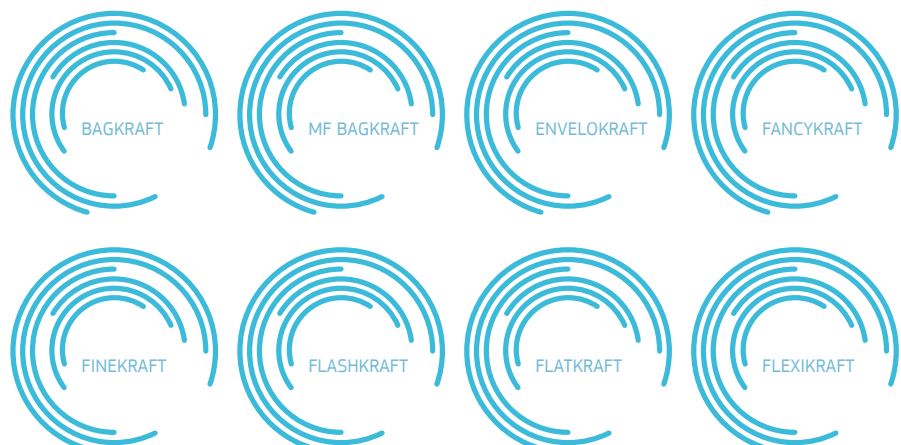
Paper

We are one of the country's leading kraft paper producers.

Our management system is certified by ISO 9001 and by the Forest Stewardship Council® (FSC® C009947) Chain of Custody.



Suitable for conversion into rigid or flexible packaging, including direct food contact, our virgin fiber papers have weights ranging from 30 to 200g/m². The recycled paper lines are indicated for the production of boxes and corrugated sheets.



BagKraft

A brown paper, with a weight ranging from 70 to 140 g/m², monolucent and recycled with a percentage of virgin fiber. Featuring high physical strength, it allows for optimum print quality. It is suitable for conversion into bags for retail stores.

MF BagKraft

A brown paper, with a weight ranging from 70 to 110 g/m², non-glossy monolucent and recycled with a percentage of virgin fiber. Featuring high physical strength, it allows for optimum print quality. It is suitable for conversion into bags for retail stores.

EnveloKraft

With a weight ranging from 75 to 110 g/m², it has a brown and golden color. Indicated for the manufacturing of envelopes.

FancyKraft

The weights vary from 35 to 75g / m², it is a monolucent paper of virgin long fiber indicated for the manufacturing of light bags and envelopes. It is produced only on request and/or order, in the colors indicated by the customer.

FineKraft

Monolucent virgin fiber paper with weights varying from 30 to 60g/m². Of a brown or white color, it meets the requirements of ANVISA Regulation 177/99, indicated for direct contact with food, applying in the manufacture of light bags for fast food chains and bakeries. It can also be used for masking paints, sewing molds and plotters.

FlashKraft

Monolucent from virgin fiber, it has brown coloration and weights ranging from 70 to 125g/m². Suitable for direct contact with food, meeting the requirements of ANVISA Regulation 177/99, indicated for manufacturing industrial bags and sacks, gummed tapes and packages.

FlatKraft

Indicated for manufacturing of industrial bags and packages and for direct contact with food, respecting ANVISA Regulation 177/99. It is brown, smoothed and produced from virgin long fiber, with weights varying between 70 and 200 g/m².

FlexiKraft

Papel pardo, extensível e produzido com fibra longa virgem em gramaturas que variam entre 70 e 125 g/m². Adequado para contato com alimentos de acordo com a Portaria 177/99 da ANVISA, também é indicado para fabricação de sacos industriais.

Regular investments in the Paper Unit SC - Campina da Alegria maintained our competitiveness.

⁽⁴¹⁶⁻¹⁾ We produce a line of papers for direct contact with food and ensure that these products will not impact the health and safety of consumers, evaluating and meeting applicable legal requirements, respecting procedures and instructions, such as:

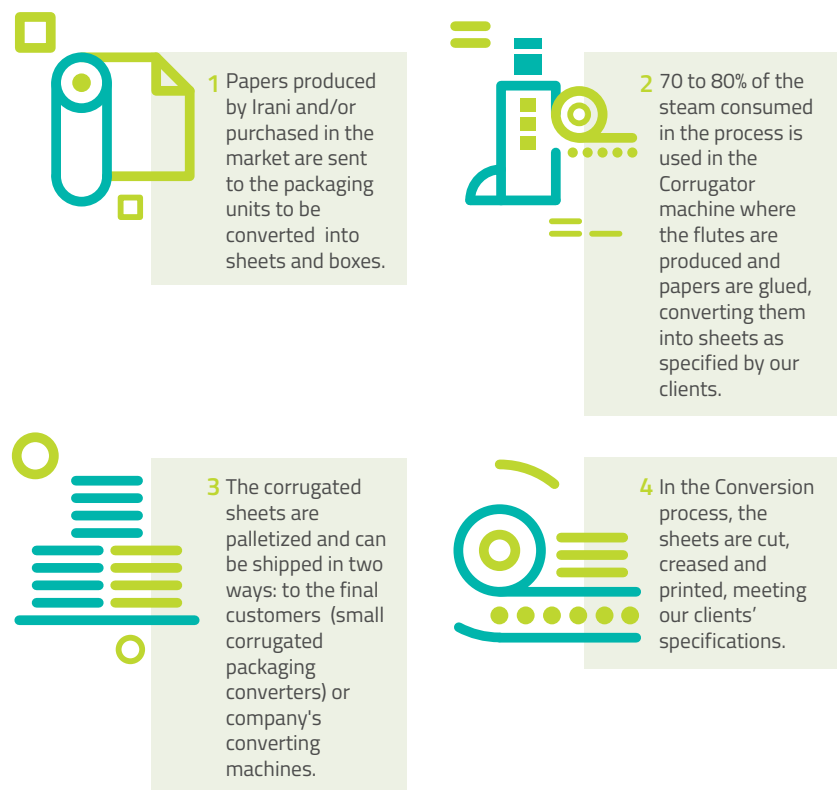
- Raw material used by these papers comprised only of virgin fiber;
- Inputs used in the production of these papers composed only of substances permitted by the positive list of Resolution RDC No. 88 - 6-29-2016 - Packaging and Cellulosic Equipment for Food Contact;
- To ensure that the inputs are composed only of substances on the positive list in Resolution RDC No. 88, before proceeding with the acquisition, the product goes through an approval process where compliance with applicable requirements is verified;
- During the production of these papers, employees apply Good Manufacturing Practices (GMPs) to avoid the physical, chemical and/or biological contamination of the product;
- To ensure that the finished products are adequate for direct contact with food, every two years, all the analyses requested by Resolutions RDC No. 88 and RDC No. 90 are performed and our ISEGA certification is revalidated.

Corrugated Containerboard Packaging

We are one of the main domestic companies in the packaging and corrugated cardboard industrial segment. In 2017, we reached third place among the segment's companies, according to the Brazilian Corrugated Cardboard Association. In this same period, we signed up new clients, building and strengthening value relationships.

We manufacture excellent performance corrugated boxes and sheets in kraft, white and recycled papers of various weights, single and double wall with strict quality control and technical support. We always are squarely focused on the customers and dedicated to examining their every packaging need.

In addition to the ISO 9001 and 14001 and FSC® certification (C009947/C125040), we are committed to offering increasingly lower-grammage corrugated packaging with superior mechanical resistance. After all, to package means to embrace and to embrace is to protect.



⁽¹⁰²⁻¹⁵⁾ We made a series of improvements in the Corrugated Containerboard Packaging Unit SP - Indaiatuba, including a new, automated wrapping machine, inventory compartmentalization, monitoring system expansion and an automated entrance into the facility. A total of 23 kaizens were carried out, including those focused on health and safety, packaging engineering operational efficiency, waste management and reduction of ink consumption.

At Corrugated Containerboard Packaging Unit SP - Vila Maria, we concentrated work on structural improvements, with the inauguration of a new leisure area, industrial restaurant and pantry facilities for our employees. Operational aspects were improved, supported by the realization of 14 kaizen weeks, including the adoption of daily accounting routines, product sample improvements, waste reductions and gains in pallet management.

The operational improvements made in 2017 at Corrugated Containerboard Packaging Unit SC - Campina da Alegria included the implementation of a pilot project to use coated paper in the process, converting machine retrofit and process adjustments, leading to a capture of results in terms of speed and productivity. We also saw gains from the implementation of the Kiwiplan, a technological solution that merged commercial, production and even packaging shipment processes, making them simpler and more reliable. In this unit, we carried out 27 kaizens, including on topics such as reduction of machine setups and down times and printing improvements.

Working on the aspects pointed out in the GPTW® Employee Engagement Survey, we were able to further motivate our corrugated containerboard packaging business teams, resulting in 2017 in 21 production records at Corrugated Containerboard Packaging SC - Campina da Alegria, 12 at Corrugated Containerboard Packaging Unit SP - Vila Maria and seven by Corrugated Containerboard Packaging Unit SP - Indaiatuba.

The challenges of this business for 2018 include an increased commitment to our strategic intent and the strengthening of our market position through Customer Focus value offerings. Our attention to costs, profitability for Irani and on the customer will be redoubled and we will seek to improve the management of the organizational climate, strengthening aspects that consolidate our health and safety culture.

(405-1) Corporate Governance

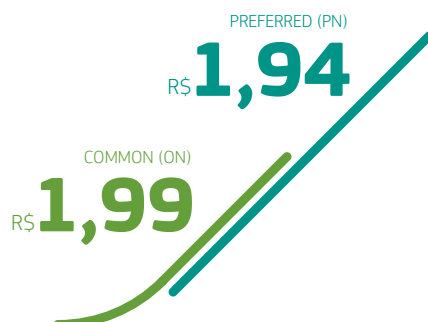
Transparency, accountability, socio-environmental responsibility, innovation and equal treatment of all our stakeholders form the basis of our governance structure.



(102-25) We do not have a formal policy or rule for stakeholder transactions, relying on existing market practices and values and commercial operations, pursuant to the rules and regulations applicable to each subject. The Board of Directors is responsible for the regular evaluation of our management, recognized and widely disclosed in the Financial Statements (quarterly and annual).

Corporate Structure

At December 31, 2017, our capital stock totaled 161,894,847.81, divided into 166,720,235 shares, of which 92% were common and 8% preferred.



Shareholders	Common shares	%	Preferred shares	%	Total shares	%
Irani Participações S.A.	93,238,181	60.58 %	5,375,080	41.96 %	98,613,261	59.15 %
Habitasul Des. Imobiliários S.A.	25,499,220	16.57 %	2,005,160	15.65 %	27,504,380	16.50 %
Cia Habitasul de Participações	19,888,540	12.92 %	1,188,560	9.28 %	21,077,100	12.64 %
Emp. Riograndense Des. Urb. Ltda	161,520	0.10 %	13,860	0.11 %	175,380	0.10 %
Ciacoi - Administração de Imóveis Ltda	110,626	0.07 %	0 %	0 %	110,626	0.07 %
Treasury stock	24,000	0.02 %	2,352,100	18.36 %	2,376,100	1.43 %
Shares owned by executive officers	1,124,067	0.73 %	711,060	5.55 %	1,835,127	1.10 %
Free float shares	13,863,821	9.01 %	1,164,440	9.09 %	15,028,261	9.01 %
	153,909,975	100%	12,810,260	100%	166,720,235	100%

102-18, 102-21, 102-22, 102-23, 102-24, 405-1 General Structure



* Internal Audit and Risk Management, Strategy and Marketing, Health and Safety, Quality and Sustainability, Accounting, Controllershship, People Development, Office of Project Management, Finance, Innovation and Continuous Improvement, Legal, Strategic Projects, Investor Relations, Institutional Relations, Supplies and Information Technology.



General Shareholders Meeting

Held at our headquarters, in Porto Alegre (RS), by ordinary or extraordinary convocation, respecting our Bylaws and the Brazilian Corporations Law.

The call notices govern the rules and procedures required for shareholders who wish to be represented. In these events we make available the proposal of the administration with information on the subjects that will be put to the vote.

General shareholders meeting: held in the first four months of each year for examination, discussion and voting of financial statements, resolution on the allocation of net income for the previous year and distribution of dividends, in addition to the election of the members of the Board of Directors.

Extraordinary shareholders meeting: held whenever necessary, for discussion of important subjects, pursuant to the Company's Bylaws.



(102-22, 102-23, 102-24, 405-1) Board of Directors

Its attributions are set forth in Article 12 of the Company's Bylaws. Each month, it discusses strategic issues such as our Corporate Policies, market relations, investments and business risks, in addition to monitoring the results presented in the financial statements.

Conselho de Administração



Péricles Pereira Druck
CHAIRMAN



Eurito de Freitas Druck
VICE CHAIRMAN



Paulo Sérgio Viana Mallmann
OUTSIDE MEMBER



Roberto Faldini
INSIDE MEMBER



Paulo Iserhard
INDEPENDENT MEMBER



Péricles Pereira Druck

Agronomist graduated from the Federal University of Rio Grande do Sul and graduated from the Owner/President Management Program at the Harvard Business School. He started in the Habitasul Group in 1995, representing the controlling shareholder on the Board of Directors of Celulose Irani S.A., in 1998, and thereafter joined the Company's management team, working in a number of different areas of responsibility. In the last 12 years, he served as a member of the Board of Directors, Director-Superintendent and Chief Executive Officer of Celulose Irani S.A., and was reelected to these positions from 2005 to 2017. Director at the Iraflor Comércio de Madeiras Ltda and Irani Geração de Energia Sustentável Ltda subsidiaries. As of July 2017, he will be the chairman of the Board of Directors of Celulose Irani S.A. and Companhia Habitasul de Participações, as well as Chief Executive Officer of Companhia Habitasul de Participações. Member and Chairman of the Board of Directors of Irani Participações S.A., Koch Metalúrgica S.A., Habitasul Desenvolvimento Imobiliários S.A., Habitasul Negócios Imobiliários e Administração de Bens S.A.; HGE – Geração de Energia Sustentável S.A. and Habitasul Florestal S.A.



Eurito de Freitas Druck

Business administrator and director of Companhia Comercial de Imóveis and of Ciacoi – Administração de Imóveis Ltda., and member and vice-chairman of the Board of Directors of Companhia Habitasul de Participações, Habitasul Desenvolvimento Imobiliários S.A., Celulose Irani S.A., Hotel Laje de Pedra S.A., Koch Metalúrgica S.A., Habitasul Comércio e Representações S.A., Habitasul Florestal S.A., HGE – Geração de Energia Sustentável S.A., Irani Participações S.A., and Habitasul Negócios Imobiliários e Administração de Bens S.A.



Roberto Faldini

Entrepreneur, Business Administrator, Mediator, Lecturer and Consultant in Corporate Governance, graduated in Business Administration from EAESP - FGV in 1972, specializing in Advanced Management at Fundação Dom Cabral and INSEAD - Fontainebleau - France in 1991; in Entrepreneurship at Babson College - Boston - USA in 2004; Corporate Governance Board Leadership - TOT - Training of Trainers at IFC - IBGC in 2009, 2011, 2013 and 2016; IBGC Certified Management Advisor in 2013. He was cofounder of the Brazilian Institute of Corporate Governance (IBGC) in 1995 and is still active on several of its committees. He is an associate member of the Brazilian Institute of Financial Executives (IBEF) and the Family Business Network (FBN). For more than 20 years he was Executive Director, shareholder and member of the Board of Directors of Metal Leve S.A. and Chairman of the Brazilian Securities and Exchange Commission (CVM) in 1992, responsible for the pioneering launch of Aracruz' ADRs on the NYSE. He was coordinator for five years from 2002 to 2007, in São Paulo of the Family Business Center (PDA), Fundação Dom Cabral. Co-author of the book "The Human Dimension of Corporate Governance" by Herbert Steinberg (Ed. Gente, 2003) and wrote a number of articles for newspapers and magazines. He was Coordinator and Co-author of the IBGC Corporate Governance Good Practices Bulletin for Corporations, launched in December 2014 in São Paulo and in Lisbon in January 2015. He also co-authored the IBGC book "The Role of the Board in Organizational Strategy," launched in November 2017.



Paulo Sérgio Viana Mallmann

Lawyer graduated from the Faculty of Law of the Federal University of Rio Grande do Sul, with an MBA in Economics and Business Law from Fundação Getúlio Vargas. He also holds the Board Member title certified by the Brazilian Institute of Corporate Governance (IBGC). He is the Legal Counsel and Credits Management Officer for the Habitasul Group. Partner of Druck Mallmann Oliveira & Advogados Associados and of LOF Consultoria Imobiliária Ltda. Board Member of the Companhia Habitasul de Participações and Celulose Irani S.A. He also served as Alternate Member of the Board of Directors of CIBRASEC - Companhia Brasileira de Securitização. Director of Habitasul Desenvolvimento Imobiliários S.A., CONSULPLANES - Consultoria e Planejamento Ltda. and Druck Mallmann Oliveira & Advogados Associados.



Paulo Iserhard

A Mechanical Engineer, since March 2015 he has been a guest professor at the Fundação Dom Cabral. From October 2005 to October 2014, he was Vice-President responsible for the Corrugated Cardboard Division of Rigesa Embalagens Papel e Celulose Ltda, a company responsible for the production and marketing of cardboard packaging in Brazil. In the period from November 2008 to October 2012, he was a member of the Board of MWV Wadco India Pvt. Ltda., a company that manufactures and markets cardboard packaging products in India. He served as Board Member, Vice President and Chairman of the Board of the American School of Campinas, an American model educational institution from pre-school to high school, from November 2008 to October 2011. Since 1991, he has been a member of the Industrial Marketing Institute. Member of the Young Presidents' Organization (YPO-WPO) since 1997, having held positions as Financial Director and Forum Director of the Porto Alegre chapter. Member of the Board of Directors of Companhia Habitasul de Participações and of Celulose Irani S.A.

(102-13, 102-24, 102-27) In order sit on the Board, all members must be knowledgeable about economic and socio-environmental aspects according to their areas of expertise. The improvement of knowledge about topics related to sustainability occurs through regular participation in outside events, professional associations and representative entities. (102-18) Starting in 2018, a Sustainability Committee will be established composed of the executive officers, managers of the industrial units and managers of Health and Safety, Quality and Sustainability, Utilities and Supplies and the team of sustainability analysts, with the objective of:

- Ensuring the evolution of the theme and the strategic alignment;
- Supporting the process of defining priority topics for the business;
- Supporting the prioritization of social and environmental investments;
- Monitoring sustainability indicators and ensuring the commitments;
- Approving the annual sustainability report;
- Assuring the social and environmental responsibility practices.

(102-25, 102-33, 102-34) The Chairman is responsible for reporting critical concerns to the Board of Directors, in addition to conducting the discussions and decisions during the regular meetings.

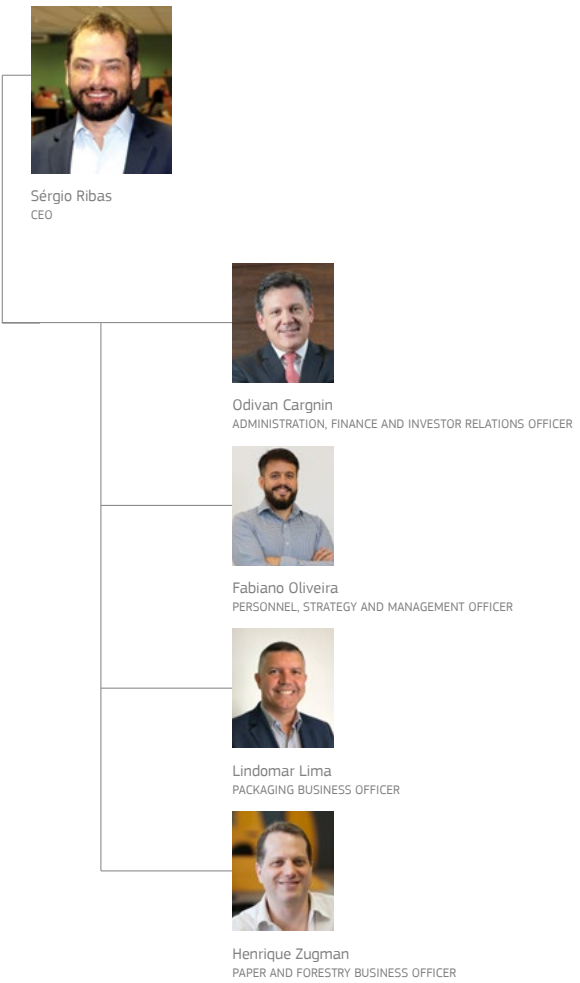


Board of Executive Officers

Oversees the operations of the company in all acts which are not the responsibility of the General Shareholders Meeting or the Board of Directors, pursuant to Article 14 of our Bylaws. The meetings are held monthly and are live or via videoconference when deemed essential.

(102-19, 102-20, 102-31) Each Executive Director, with the support of his/her teams, is responsible for implementing project decisions, budget reviews, prioritization of needs, and implementation of controls and organizational changes.

Diretoria Executiva





Sérgio Luiz Cotrim Ribas

He holds a post-graduate degree in business administration from Faculdade Getúlio Vargas (FGV-SP), from the University of São Paulo (USP) and Boston University (USA). Previously, he worked in the areas of strategic management and marketing consulting at Roland Berger Strategy Consultants and marketing management of Banco do Brasil. He has been in the industry since 2004, when he joined Irani. He served for six years as director of Marketing and Sales, seven years as director of Paper and Corrugated Containerboard Packaging Business Officer and was re-elected Operations Officer. In July 2017, he was appointed Chief Executive Officer.



Odivan Carlos Carginin

Lawyer and accountant, with a degree in Accounting Sciences and Law from UNOESC - Universidade do Oeste de Santa Catarina. He has a Postgraduate degree in Management Accounting, Costs and Controlling. He has worked in the industry since 1995, when he joined Irani. He started in accounting, was manager of controllership and involved in expansion projects. For the last 13 years, he has been the Administration, Finance and Investor Relations officer. He has been a director at the Iraflor Comércio de Madeiras Ltda and Irani Geração de Energia Sustentável Ltda. subsidiaries and member of the Board of Directors of HGE- Geração de Energia Sustentável S.A. Since July 2017, he has been the Administration, Finance and Investor Relations officer of Companhia Habitasul de Participations and on the Executive Board of Habitasul Comércio e Representações S.A. and Habitasul Desenvolvimento Imobiliários Ltda.

**Fabiano Alves de Oliveira**

Accountant, with a degree in Accounting Sciences and Law from UNOESC - Universidade do Oeste de Santa Catarina. He holds a postgraduate degree in Finance (UNOESC), in Business Management from the Getúlio Vargas Foundation (FGV) and a Professional Master's Degree from the School of Management of UFRGS of Porto Alegre. He began working in the company in 2002 in the Controllershship area, and was the area manager for over 10 years. In the last three years, he served as Superintendent of Strategy and Management. In December 2017, he was appointed Personnel, Strategy and Management Officer.

**Lindomar Lima de Souza**

He holds an MBA in Commercial Marketing with emphasis on Sales from the Getúlio Vargas Foundation (FGV-SP). Previously, he worked as a Packaging Technician at Orsa Fabrica de Papelão Ondulado S/A. He joined Irani in 1998 as a Packaging Technician; from July 2006 to September 2013 served as Sales Manager; and in October 2013 he became the Sales Superintendent. In December 2017, he was appointed the Corrugated Containerboard Packaging Business Officer.

**Henrique Zugman**

He holds a Bachelor's Degree in Business Administration with an emphasis in Foreign Trade from the Universidade Mackenzie (SP), and an MBA in Sales Management from ESPM (SP). Previously he worked at Igaras Papéis e Embalagens in the Exportation department and as Business Consultant for Grade Assessorial Comercial Ltda. He joined Irani in 2003 as Head of Exports. In 2004, he became the Export Sales Manager and became chief of Internal Market Paper sales in 2009. In December 2016, he was named Paper and Forest executive sales manager. In December 2017, he was appointed Paper and Forestry Sales officer.

(102-19, 102-20) Our Corporate Disclosure and Use of Information and Securities policies are available on our site and are designed to ensure equitable treatment, transparency and immediate dissemination of information to all interested parties without privileging any stakeholder group. Among the subjects are material acts and facts, decisions taken by the controlling shareholder, resolutions of General Shareholder Meetings or the management bodies and restrictions to the trading of our stock during certain periods.

(102-28, 102-35, 102-36, 102-37)

Compensation of the Board of Directors and the Board of Executive Officers

We have established guidelines to be observed as to the remuneration of members of the Board of Directors and the Executive Board seeking to align the interests of management and shareholders, as well as to guide behavior and stimulate short- and long-term visions. Thus, we also encourage the sense of ownership and commitment, attracting, retaining and motivating our managers.

(102-35) Each compensation element plays a short-, medium- and long-term role. Senior management's remuneration is set annually by the General Shareholders Meeting and provides for fixed compensation and fringe benefits, a quarterly variable and short-term bonus linked to pre-established goals, and long-term variable compensation, the latter through the **Upside Program** and/or statutorily provided for through Profit Sharing.

The Upside Program is tightly tied to results. Thus, we ensure coherent compensation without compromising any other investments. Its premises are based on the theoretical value of the stock in the year it was established and in the planned future, assigning each participant remuneration based on the theoretical amount of the shares, with a cash payout on the date of the determination and/or statutorily mandated through profit sharing.

(102-28) The Board also participates in the Supera (Overcoming) Program, whose evaluation covers aspects that encompass a broad vision of sustainability within the culture of excellence, with a direct impact on variable compensation. The long-term remuneration, proportional to the valuation of the stock every three years, also takes into account these intangible assets and the economic result.

	2015	2016	2017
Management compensation, excluding mandated social charges (in R\$ '000)	7,402	6,699	13,271

(102-25) On our Investor Relations website you can access more information about compensation for the executives and managers responsible for governance, including how this compensation is linked to our performance in the short-, medium- and long-term. Just click on Financial Information/CVM Files > Reference Form (item 13) and on the Brazilian Securities and Exchange Commission (CVM) website.

In our Reference Form, you can find information related to conflicts of interest, cross-participation in management bodies, cross-shareholding control with suppliers and other stakeholders, existence of majority shareholder and disclosure of information on the stakeholders. We also make information available regarding significant shareholding interests (greater than 5%) down to the individual level. There is no shareholders' agreement currently in force.

(102-45) Management of the companies controlled by Irani

Representatives of Irani's Board of Directors also sit on the Boards of the Habitasul Florestal S.A. (three members) and HGE - Geração de Energia Sustentável S.A. (four members) subsidiaries. Elected by the shareholders, members of our Board also participate on the Board of Directors of the Irani Geração de Energia Sustentável Ltda. and Iraflor - Comércio de Madeiras Ltda.

Channels of communication with the market

Our official communication channels keep the market informed about our activities and results:

- Investor Relations website, available in Portuguese and English
- Direct channel with the Investor Relations Officer and the Investor Relations team via e-mail ri@irani.com.br;
- Contact Us Tool on the IR website;
- E-mail Alert;
- Disclosure of the Annual Financial Statements and Quarterly Information (ITR);
- General and Extraordinary Shareholder Meetings; and
- Sustainability Report

For more information, suggestions, questions, recommendations or direct contact with our Investor Relations Officer, access <http://ri.irani.com.br/en/ri/info/service-for-shareholders>

Focus on the result

Over time, we have improved and consolidated our strategic planning process.

In 2017, bringing together our key leaders, we reviewed the mission, vision and values that make up our strategic intent and outlined the strategic planning for the 2018-2027 cycle, focused on monetizing our current business platform.

(102-26)



Mission

Build value relationships.

Vision

Be the best, most profitable, one of the best companies to work for and be among the largest paperboard and corrugated packaging companies.

Values



Life, first of all



Challenged and valued people



Customer-focused



Results-focused



Integrity



Cordiality

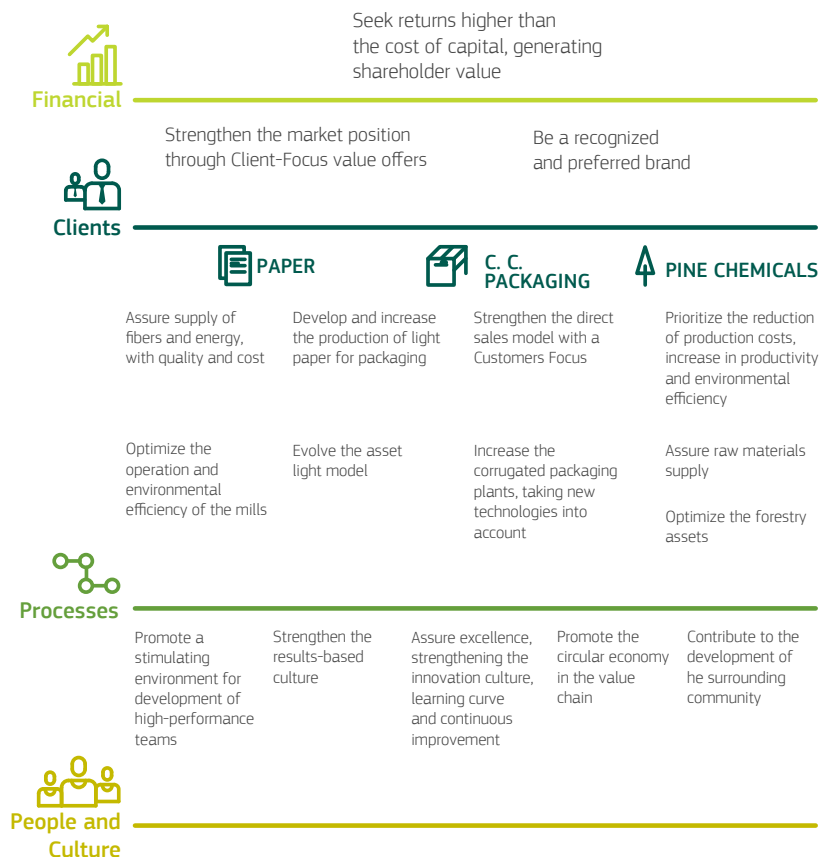


Innovation



Social and environmental responsibility

The guidelines for the next 10 years were proposed maintaining the essence of our current strategy. These business drivers led us to incorporate strategic objectives into the strategic map prepared for the cycle:



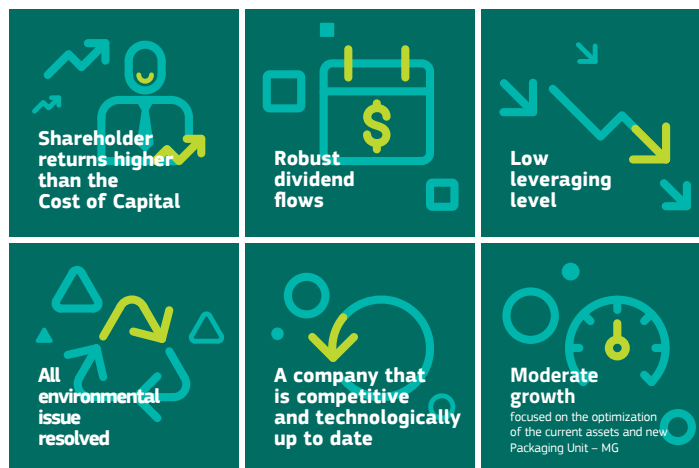
This process, of reflection about the company we want to be, also led us to restructure our Board of Executive Officers, [access here](#).

The year 2018 brought an even greater commitment from our teams to fulfill our strategic intent, with an enhanced focus on preparing for a phase of growth and profitability of the business, aware of the relevance of the balance of our actions and the engagement of our employees. stakeholders in this process of evolution of the Company.



The Simplify Project, which was introduced at the beginning of January, is contributing to this cycle to update Irani's technological base, making it more integrated and prepared to meet the demands of the planned cycle. Thus, over the next two years, we will be dedicated to the implementation of SAP, the ERP most used by the largest and best companies in the world as we seek to capture greater operational and financial efficiencies, competitiveness and informational security. During this time, the professionals involved in the project will be constantly challenged and motivated to be protagonists of this new digital transformation era.

In 2027, at the end of the current strategic planning cycle, the company we want to be will include:



Risk Management

(102-11) Our risk management process follows the ABNT NBR ISO 31000:2009 guidelines and those of the The Committee of Sponsoring Organizations of the Treadway Commission - Enterprise Risk Management Framework (COSO-ERM), and is coordinated by the Audit and Risk Management Area, including:





1 Identification

At this stage, we analyze our processes together with our leadership in order to identify possible gaps in internal controls that may be risk factors for the Company.



2 Analysis

Classification of gaps identified as risks, causes or impacts, defining the steps for the evaluation carried out in the next step.



3 Assessment

(102-15, 102-29) Evaluation of the processes using a formal tool that details the risk factors and the impacts arising from their materialization to the business, classified as:



The probability of the occurrence of risk factors is verified using historical and internal controls. Applicable controls and requirements are also evaluated, as well as the type of response required (elimination, monitoring, mitigation or tolerance), frequency of occurrence and type (preventive, detective or reactive). This evaluation generates an opinion by the risk manager and the Audit and Risk Management area containing qualitative weights and recommendations.



4 Treatment

The discussion of the issues evaluated is broken down into action plans based on control actions and an understanding of the most critical and relevant points.



5 Monitoring

The monitoring process evaluates the effectiveness and compliance with the action plans drawn up and includes audits to validate the controls.



6 Risk Communication

(102-15, 102-30) Annually, the Audit and Risk Management area compiles the results of the work carried out throughout the year in the form of a report. This report is sent to the Executive Board for discussions in conjunction with risk managers, and combinations of activities arising from the action plans.

(102-15) The main risks identified in our business are:



1 Strategic

Incapacity to recognize factors related to the changes in the political economic scenario, such as world economic stability.

In order to mitigate this risk, periodically we prepare a long-term plan with evaluation of different scenarios, permitting effective responses to events. The increase in competition also is monitored through a market scenario analysis, observing the growth capacity of the competition and current capacity of the Brazilian and world paper and pulp sector for decision-making during the strategic planning stage.



4 Operational

Risks related to the operating conditions of capacity and efficiency, operational continuity, product distribution within the established conditions and deadlines.

In this aspect, we monitor the impacts of loss of productivity, damages to assets and others through control of the conditions of our installations and equipment, carrying out preventive and predictive maintenance and conducting emergency management to control fires in our installations and forests. Regarding client relations, in order to meet their requirements, we have put a strict quality control process for end products and an after-sale monitoring system into effect, which are focused on the customer. The attention to people is demonstrated by the controls to prevent and ensure the health and safety of all employees in exercising their professional activities, has been improved and treated as an item that requires continual evaluation.



2 Financial

Sales to clients with Credit limits that have been exceeded or who are in default. The monitoring of accounts receivable represents mitigating mechanisms used by the Company.

The market risks, stemming from the lack of capacity to respond effectively to unfavorable fluctuations, domestic currency liquidity, and national monetary policy swings to foment and regular the country's economic warming up are monitored and define the exchange rate and interest rate scenarios. The risk of not obtaining financial resources at accessible costs, resulting in financial losses, late payments or the interruption of projects that are strategic for the Company is monitored through mechanisms that assure the necessary funding guarantees.



3 Compliance

Exposure to citation by authorities stemming from failure to comply with the applicable Business regulations, both regarding legal as well as voluntary compliance on environmental legalization. We have a computerized system in place that permits monitoring of the applicable environmental requirements, follow up on validity dates for the environmental licenses that have been granted by the appropriate authorities, including other mechanisms. Our policies that seek to reutilize solid waste and the reduction of the generation of effluents are oh applied and disseminated.

⁽¹⁰²⁻³⁰⁾ Approved by the Chief Executive Officer, the Annual Audit Plan contemplates the priority work to verify internal controls based on risks. In the past year, we performed health and occupational safety audits in our industrial units, the operational cycle of the Corrugated Containerboard Packaging Unit SP - Indaiatuba, Paper and Resin Unit SC - RS, and environmental compliance in the corrugated containerboard packaging units.

⁽¹⁰²⁻¹⁶⁾ In 2017, we continued structuring and then the launch of our Integrity Program. In line with our values, it reinforces the need to comply with the standards included in our Code of Ethical Conduct, including aspects of conflicts of interest, applicable laws and regulations, such as Decree No. 8420/15, which regulates the Anti-Corruption Law, encompassing the guidelines respective to the conduct of the activities of the Board of Executive Officers and all employees of the company in the areas of:

- Relations with the public sector, professional associations and labor unions;
- Supplier relations;
- Customer relations;
- Donations and sponsorships;
- Hospitality, gifts and presents;
- Accounting registers
- Mergers, acquisitions and corporate restructuring;
- Anti-retaliation;
- Sanctions.

The Program also applies to suppliers and associations authorized to represent us.



⁽¹⁰²⁻¹⁷⁾ Our Ethics Committee aims to ensure, promote, disseminate, train and guide our managers and employees regarding the ethical conduct set forth in the Code of Ethical Conduct policy paper that was revised and approved by the Board of Directors in October 2017. Beginning in 2018, it will be formed by nine members, two fixed seats occupied by employees appointed by those from the Legal, People Development and Audit and Risk Management areas and seven representatives from each business unit, appointed by the Executive Board every two years.

All communications received are evaluated and processed. Confidentiality and anonymity are guaranteed, as is the prohibition of retaliations aimed at anyone who has filed a report on any topic.

⁽¹⁰²⁻³⁴⁾ In 2017, the communications received covered behavioral issues, conflicts of interest and doubts about the Code of Ethical Conduct contents, among others. All were duly dealt with and reported to the Chief Executive Officer. As of 2018, the behavioral themes will be registered under subcategories as defined by the Committee. The Company has chosen to keep numbers and contents of such communications strictly confidential.

Click here to access our Code of Ethical Conduct.

CONTACT WITH THE ETHICS COMMITTEE

- Immediate leadership;
- E-mail: etica@irani.com.br, which will be received by the Ethics Committee Coordinator;
- CEO (sergioribas@irani.com.br);
- Channel available in the Irani World in the ETHICS Link, for the inhouse audience; and
- Channel available on the site.

Also in 2018, we will disseminate the Integrity Program and the Code of Ethical Conduct for employees and stakeholders. We will also audit the Fiscal and Tax, Personnel Development and Procurement cycles, as well as evaluate the proxies provided by the Company and the work access project of the Paper and Corrugated Containerboard Packaging SC unit, pursuant to the Integrity Program's guidelines. A new edition of an environmental legal compliance audit will be conducted in the packaging plants, as well as one for health and safety, covering all the units.



Excellence

Our strategic intention drives excellence in everything we do, ethically and transparently, strengthening our innovation, learning and continuous improvement culture.

The Management Excellence Model® (MEG®) is one of the tools we use annually to assess the maturity of our organizational management. Its implementation generates a diagnosis, through which we identify opportunities for improvement and apply the development and improvement of our management practices, involving multidisciplinary teams in all processes of the value chain.

In 2017, we were awarded the Gaúcho Quality and Productivity Program's Bronze trophy and the Catarinense Excellence Award - Diamond, both based on the MEG® methodology.

Our current model of innovation management is based on the Euvaldo Lodi Institute (IEL) model, linked to the Federation of Industries of the State of Santa Catarina (FIESC), providing support and assistance to the development of competitiveness and innovation in the state.

External diagnostics and participation in innovation awards help us measure our progress in this regard. Each year, we participate in the National Innovation Award (PNI) process, an initiative of the Entrepreneurial Innovation Mobilization (MEI) run by the National Industry Confederation (CNI) and the Brazilian Micro and Small Business Support Service (SEBRAE). It aims to recognize the successful innovation and innovation management efforts being undertaken at Brazilian organizations.

Participation in the 2017 edition evidenced our progress in improved management practices and indicated an opportunity to enhance the results obtained through innovation.

In 2017, we also received recognition in the Towards Innovation category of the Innovation Award organized by the Gaucho Quality and Productivity Program; this, too, demonstrated our efforts to bolster this theme inside the Company.

Also in 2017, we consolidated the Variable Costs Management project initiated in 2016, designed to capture opportunities in the management of prices, with suppliers and in production processes. The target for the period was R\$ 8.7 million. After 12 months, the financial result of the project was R\$ 11.5 million, 30% higher than expected. This favored the application of this model to the Company's other units, with a forecast of capturing the results through this same model in 2018.

Unit: From - To	What	How	Frequency
All Unit manager > Collegial Board	Unit results – Package (CV in R\$)	R3G Packages	Monthly
All Superintendent + Manager + Package Manager > Business director	Unit results – Package (CV R\$) and indicators (global, price consumption)	R3G (indicators, inputs, products)	Monthly
Paper Package Manager > Superintendent C. C. Packaging and Forestry: Package Manager > Manager	Operating and chronic anomaly indicators (NS) Indicators (global, price consumption), main anomalies and actions.	R3G (indicators, inputs, products)	Biweekly / Daily
Paper Manager > Superintendent C. C. Packaging and Forestry: Coordinator > Manager	Operating and chronic anomaly indicators (NS)	A4 + treated prioritized anomalies	Daily
Paper Coordinator > Manager Embalagem e Florestal: Coordinator	Operating, anomaly indicators treated and need for assistance from leadership	Results, anomalies and pending matters	Daily
All Operators			

Inspired in the Lean Manufacturing philosophy, the Mais (More) Program has been consolidating over time, increasingly and consistently linked to annual goals, with management mechanisms such as daily accounting, 5S, Kaizen, Green and Blackbelt Weeks.

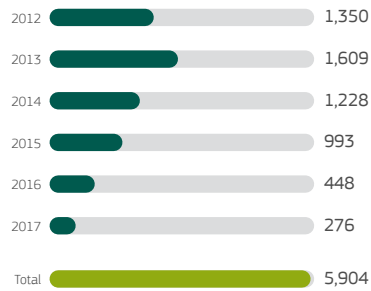
Medium-term results are encouraged for projects that use the Six Sigma methodology, as well as projects to reduce costs and that are aligned with the Supera (Surpassing) Program's targets.

The belts projects are a clear example of our value added actions. In 2017, we formed nine greenbelts and five blackbelts, who have developed projects on themes that seek to develop operational efficiencies whose gains will be captured in 2018.

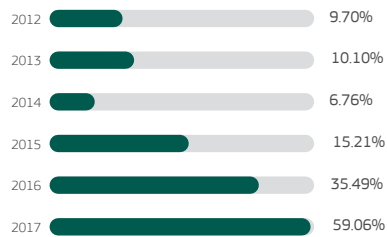
The running of almost 30 Kaizen weeks in all the units also demonstrated our Lean journey evolution and maturity, leading to a more than R\$ 1.1 million financial return.

The innovation culture has room to consolidate through Inova Ideas, started in 2012. Over time, 162 ideas have delivered qualitative and quantitative results. The recognition culture drives our innovation initiatives. In this context, employees can be rewarded with trips or receiving a percentage of the operational result of the ideas that have been applied. In 2017, this amount was R\$ 86,000.

Ideas generated since the start of the program



Valid ideas since the start of the program



We believe that innovation is one of the fundamental components of the continuous quest for excellence. Therefore, the strategic planning review discusses and seeks to understand what is necessary and natural for our evolution through this path.

Today, this theme is used as an integrating process that involves a number of the Company's areas, identifying opportunities, developing new products, processes, services and new management models for the market. The next step of this journey is innovation as a system of collaborative management practices. This goes beyond the innovation life cycle by offering strategic direction, while also guiding the allocation of resources and connection to innovation ecosystems.

Based on the strategic plan prepared for the 2018-2027 cycle, the following priority initiatives are highlights:

- Innovation Committee guiding R&D;
- Open Innovation;
- Partnerships with startups;
- Development focused on design;
- Definition of lines of research;
- Search for external capital for innovation projects;
- Partnerships with customers and suppliers;
- Continued vigilance regarding the impacts of Industry 4.0;
- Generation of revenue from new products and patents.

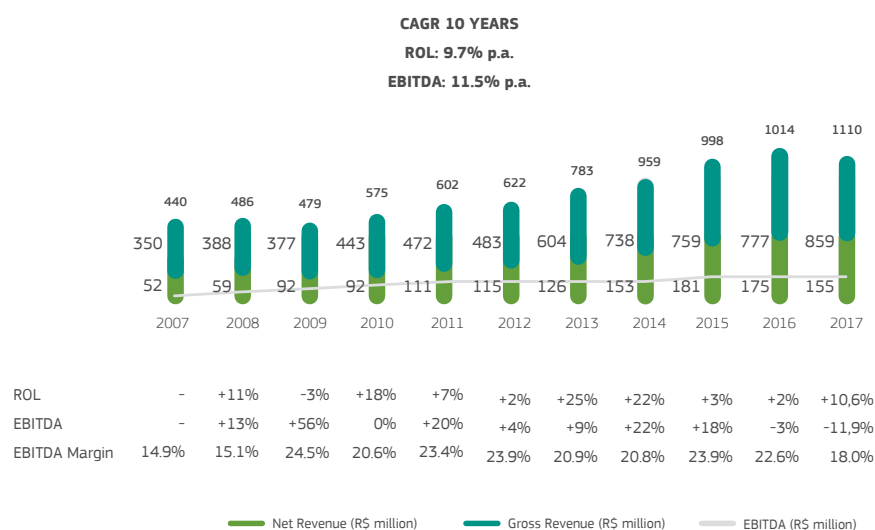


(102-7, 201-1, 201-2)

We are not only an economic agent, we contribute to the prosperity of our stakeholders and to the promotion of social development. The recognition of this effort comes about through admirable and well-deserved profits.

Economic and Business Performance

Our Net Revenue grew 9.7% a year over the last 10 years, as has Adjusted EBITDA, whose average annual growth was 11.5%. In this period, this indicator was R\$ 52 million in 2007, with a margin of 14.9%, rising to R\$ 155 million in 2017, with a margin of 18.0%.



Balance Sheets (Consolidated as at December 31, in thousands of reais)

Shareholders	31.12.2017	31.12.2016
ASSETS	1,501,839	1,679,951
Current Assets	345,461	444,287
Non-current assets	1,156,378	1,235,664
LIABILITIES AND SHAREHOLDERS' EQUITY	1,501,839	1,679,951
Current Assets	301,759	445,377
Non-current assets	859,359	789,373
Shareholders' equity	340,721	445,201

¹⁰²⁻⁷ Consolidated income statements for the years ended December 31 (in thousands of reais)

Shareholders	31.12.2017	31.12.2016
Net Sales Revenue	859,169	776,795
Change in fair value of the biological assets	(10,847)	27,394
Cost of Goods Sold	(622,425)	(593,422)
Gross Profit	225,897	210,767
Operating Revenue (Expenses)	(220,162)	(138,833)
Income before financial results and taxes	5,735	71,934
Net financial revenue (expenses)	(106,306)	(107,046)
Operating profit before tax effects	(100,571)	(35,112)
Net profit for the year	(108,173)	(10,782)

Our annual financial statements including the annual financial statements, encompassing the Explanatory Notes, the Independent Auditors' report and the Management Report are presented in full on our Investor Relations website. The preparation of these documents respect the Corporations Law and its amendments, and the rules established by the Brazilian Securities and Exchange Commission (CVM). Disclosure took place on April 27, 2018 in large-circulation newspapers in which we published our corporate acts and they also were available on the CVM and the BM&FBOVESPA websites. According to a Material Fact published by the Company on April 5, 2018, and the delay in publication was due to the review of the Financial Statements by the Company's independent auditors, Deloitte Touche Tohmatsu Auditores Independentes.

Main economic-financial indicators

In 2017, according to the Brazilian Corrugated Cardboard Association (ABPO), the favorable economic environment presented a resumption in consumption, evidenced by a 4.9% increase in the total tons of cardboard shipped compared to 2016.

Even in the face of a challenging domestic scenario, sales to the domestic market and better prices in the PO paper and corrugated containerboard packaging segments contributed to a 10.6% growth in our Revenue in 2017 compared to the previous year.

Main Indicators – Consolidated	2017	2016	Change 2017/2016
Economic and Financial (R\$ '000)			
Net Operating Revenue	859,169	776,795	10.6%
Internal Market	733,131	635,433	15.4%
External Market	126,038	141,362	-10.8%
Gross Profit (inclusive*)	225,897	210,767	7.2%
(*) Change in the Fair Value of the Biological Assets	(10,847)	27,394	-139.6%
Gross Margin	26.3%	27.1%	-0.8p.p.
Operating Income before Taxes and participations	(100,571)	(35,112)	186.4%
Operating Margin	-11.7%	-4.5%	-7,2p.p.
Net Income	(108,173)	(10,782)	903.3%
Net Margin	-12.6%	-1.4%	-11.2p.p.
Adjusted EBITDA 1	154,530	175,314	-11.9%
Adjusted EBITDA Margin	18.0%	22.6%	-4.6p.p.
Net Debt (R\$ million)	686.4	719.3	-4.6%
Adjusted Net Debt/EBITDA (x)	4.44	4.10	8.3%
Adjusted proforma Net Debt/EBITDA (x) 2	3.68	3.40	8.2%
Operating Data (t) 3			
Corrugated Cardboard Packaging (PO)			
Production/Sales	193,256	178,168	8.5%
Packaging Paper			
Production	289,019	275,446	4.9%
Sales	89,072	87,947	1.3%
Forestry RS Unit and Resins			
Production	11,841	11,926	-0.7%
Sales	12,000	12,211	-1.7%

¹ EBITDA (earnings before interest, taxes, depreciation, amortization and depletion).

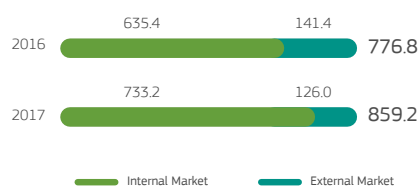
² EBITDA 2 Excluding from net debt the exchange variation recorded as hedge accounting.

³ The assumptions used to measure the volumes of Corrugated Cardboard (CC) and Packaging Paper segments were revised in 1Q17 and underwent changes when compared to the previous year.

Net Operating Revenue

Our Net Revenue reached R\$ 859.2 million in 2017, an increase of 10.6% compared to 2016, influenced by our performance in sales to the domestic market. This continues to be our main market, accounting for 85% of sales at the end of the year.

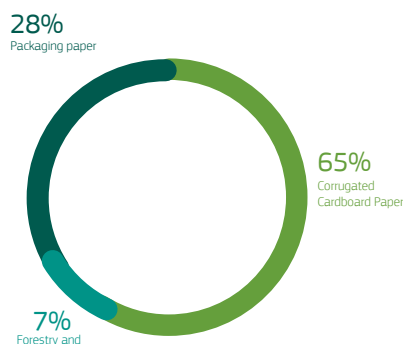
Net Revenue (R\$ million)



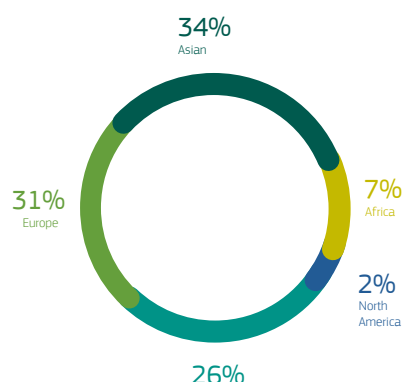
Share per market

	2016	2017
Internal Market	82 %	85 %
External Market	18 %	15 %

Net revenue per segment in 2017



Net revenue - Foreign market in 2017



Assessment of the Fair Value of the Biological Assets (Forests)

The negative variation on resination and silviculture costs, as well as changes in area size and timber production planning, as a consequence of the fire that occurred in February 2017 in areas belonging to this forest asset, influenced the negative change in the fair value of the biological assets for the asset during the year.

South America

Effects of the changes in the fair value of the biological assets

R\$ '000	2017	2016
Change in fair value of the biological assets	10,847	27,394

As of 2010, as determined in CPC 29, we have measured the fair value of the biological assets (forests) on a regular basis. The variation of this value and its depletion is recognized in the Cost of Goods Sold (COGS) line item. This accounting determination makes it possible to more precisely evaluate the market value of our forests, thus more appropriately representing them on our Financial Statements.

Net Income

Impacted by the negative variation in the fair value of the biological assets, recognition of tax provisions and losses on non-recurring receivables and non-recognition of taxes and contributions on tax loss for the year, our net income for 2017 was a negative R\$ 108,173 thousand, when compared to 2016, which was a negative R\$ 10,782 thousand.

Main Indicators – Consolidated	2017	2016	Change 2017/2016
Operating income before Taxes and Participations	(100,571)	(35,112)	186.4%
Depletion	41,761	60,916	-31.4%
Depreciation and Amortization	53,815	63,886	-15.8%
Financial Result	106,306	107,046	-0.7%
EBITDA	101,311	196,736	-48.5%
EBITDA Margin	11.8%	25.3%	-13.5p.p.
<i>Adjustments pursuant to Inst. CVM 527/12</i>			
Change in the fair value of the biological assets (1)	10,847	(27,394)	-
Non-recurring events (2)	42,372	5,972	609.5%
Adjusted EBITDA	154,530	175,314	-11.9%
Adjusted EBITDA Margin	18.0%	22.6%	-4.6p.p.

Adjusted EBITDA for the year totaled R\$ 154.5 million, with a margin of 18.0% and was 11.9% lower than 2016. The reduction of 4.6 percentage points in the margin was mainly due to the sale of forests, which in 2017 was lower when compared to sales in 2016.



Financial Result

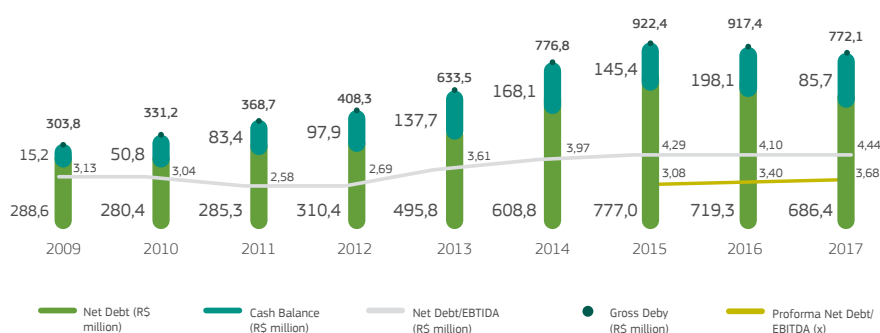
Our financial result in 2017 remained stable when compared to 2016. In the same year, the exchange variation negatively impacted our results by R\$ 8,797 thousand, mainly explained by the recognition of hedge accounting in the result, distributed as follows:

R\$ '000	2017	2016	Change 2017/2016
Financial Revenue	21,942	39,932	-45.1 %
Financial Expenses	(128,248)	(146,978)	-12.7 %
Financial Result	(106,306)	(107,046)	-0.7 %
Net exchange variation	(8,797)	(19,461)	-54.8 %
Financial Result without exchange variation	(97,509)	(87,585)	11.3 %

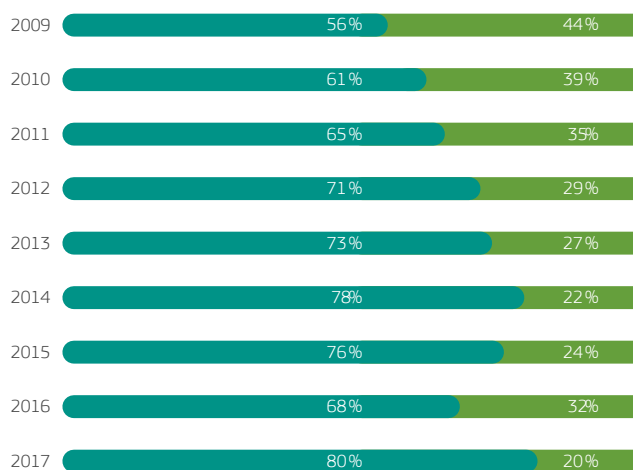
Net Debt

Our consolidated gross debt totaled R\$ 772.1 million in 2017, with 80% maturing in the long-term. The consolidated cash balance totaled R\$ 85.7 million at December 31, 2017, compared to R\$ 198.1 million in the same period of 2016. The main factors impacting the cash position were the actions of financial operations in a volume larger than the funding, the execution of investments in relation to cash generation and the sale of forests in the last quarter of 2017. As a result, our consolidated net debt in 2017 was R\$ 686.4 million, compared to R\$ 719.3 million in 2016, resulting in the net debt/EBITDA ratio increasing from 4.10x at the end of 2016 to 4.44x at the end of 2017. Excluding from net debt the exchange variation recorded as hedge accounting, the net debt/Proforma EBITDA indicator would have been 3.68 at the end of 2017. The variation of this indicator was influenced by the EBITDA reduction in the year.

Debt and Net Debt/EBITDA



Gross Debt Profile



(201-1) Direct economic value generated and distributed

We present the values regarding the wealth we generate and its distribution among the parties that contributed to the generation of this wealth, such as employees, government, financiers and shareholders, as follows:

	31.12.2017	%	31.12.2016	%
1. Revenue	1,134,067		1,099,289	
2. Inputs acquired from third parties	687,770		563,601	
3. Gross added value (1-2)	446,297		535,688	
4. Depreciation, amortization and exhaustion	95,576		124,802	
5. Biological asset fair value variation	10,847		(27,394)	
6. Net added value produced by the entity (3-4-5)	339,874		438,280	
7. Added value received through transfers	21,942		39,932	
8. Total added value to distribute (6+7)	361,816		478,212	
9. Distribution of Added Value				
9.1 Personnel	169,480	46.84%	156,575	32.75%
9.2 Taxes, fees and contributions	161,640	44.67%	146,387	30.61%
9.3 Remuneration of third-party capital	138,869	38.38%	158,981	33.24%
9.4 Remuneration of own capital	(108,173)	-29.89%	16,269	3.40%



expanded
look

People Strategy

To embrace the future is to engage and encourage high-performance teams.

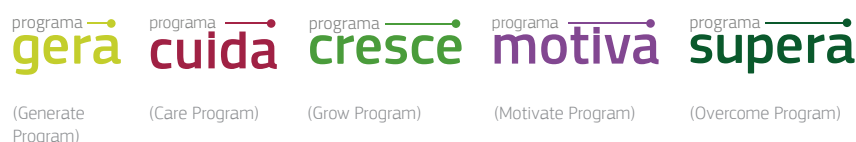
^(DMA) Challenging and valuing people is in our DNA. Toward this end, we seek to create the necessary conditions for them to realize their full potential, developing and performing professionally and personally.

We ended 2017 with 2,513 employees. Of these, 5.93% are detached. Of the total number of employees, 98.41% are hired under the CLT (registered work contract) regime and 0.24% on a pro-labore (per job) basis. ⁽¹⁰²⁻⁴¹⁾ In the makeup of the table, 98.37% are covered by collective bargaining agreements.

	2015		2016		2017	
Affiliation	n°	%	n°	%	n°	%
Collective agreements	2,520	98.36%	2,424	96.46%	2,323	98.27%
Pro-labore	4	0.16%	4	0.16%	6	0.25%
Minimum Salary	38	1.48%	85	3.38%	35	1.48%



Our actions to stimulate and develop high performance teams are organized into five structuring programs:



programa
gera
(Generate Program)

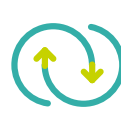
Its purpose is to ensure that new employees are appropriately integrated into our organizational culture through a set of processes that have been refined over the past year, hoping that at the end of the professional relationship, evidence of the growth of both is one of the recognized results. The processes comprise:



Selection



Generate Diversity



Integration



Functional monitoring



Termination



Selection

We prioritize to offer our employees the opportunity to develop internally and progress their careers with us. Therefore, whenever a new vacancy emerges, in-house recruitment is our first option. Mixed or external recruitments are only opened in specific cases that require differentiated experience and knowledge. Our selection processes are conducted by a team of psychologists trained to understand human behavior and apply the best selection tools in the market.

Vacancies filled by
Internal Recruitment

2015	2016	2017
61.05%	61.90%	45.76%



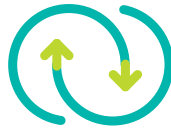
Generate Diversity

We have consolidated the initiatives of this Program, aiming at the inclusion of people with disabilities on our teams. This work highlights the development of an awareness-raising campaign that seeks to prepare the staff to understand the aspects of the disability of the employee who is being integrated and learn to deal with their limitations, resulting in mutual learning opportunities. In 2017, we increased the percentage of employees with disabilities in our workforce by 11.01%.

The Jovem Aprendiz (Young Apprentice) program is conducted in all units. In addition to supporting our teams, the young people participate in learning courses in various areas of interest in partner institutions. Throughout the time they stay with us, the youths receive specific integration orientation and are monitored to support their professional development. Starting in 2018, we will introduce a distinctive training plan that includes guidance regarding the labor market during the entire time they participate in the program.

Since the Program began, we have already hired 7.62 % of apprentices for other functions. Of these, 5.71 % were allocated to the Santa Catarina Units.

In 2017, we had 32 trainees in technical, administrative and production areas, who participated in functional follow-ups after the period of experience. One of the success factors was the hiring rate at the end of the internship period, which was 29.9%.



Integration

All units have implemented a formal integration process through which diverse themes regarding personnel administration, benefits, policies and internal programs are presented, initiating the process of adaptation to our culture. In this process, the new employees also visit the unit, accompanied by our work safety technicians in the cases of industrial plants, to assist them to understand the production process as a whole.

Upon arrival in their areas, new staff members are also greeted by their immediate leaders and facilitators, who are responsible for managing and monitoring their work activities until fully adapted.

We offer employees who are promoted to administrative and/or commercial leadership positions a special process of continuous integration. Through this program, the main personnel management routines of the people that will come under their responsibility and interfaces with other areas are presented.



Functional monitoring

⁽⁴⁰⁴⁻²⁾ Immediate managers are empowered to monitor employee performance and their adaptation to the work and the job function. Our Personnel Development team supports them whenever necessary and makes individual visits at the end of the experience period and also as soon as the employee completes one year on the job.



Termination

⁽⁴⁰⁴⁻²⁾ The end of the professional relationship with our employees is conducted in the most transparent and compassionate way possible. All employees who are dismissed or ask to leave participate in an interview that seeks to identify opportunities for improvement in our management of people and processes. When authorized by the interviewee, this results in feedback to his or her immediate superior.

(DMA) We want to go beyond compliance with the legislation. Our culture is strengthened by the commitment of both our managers and employees to watch out for each other's health and safety.

programa
cuida (Care Program)

Our strategic intention underscores our concern regarding occupational health and safety. This theme was strengthened and based on the review of our Strategic Plan, from which Life emerged as our first Value.

Toward this aim, the Program organizes a set of preventive and corrective policies, procedures and practices designed to ensure adequate and safe conditions for our employees to conduct their activities in good health and wellness.

Thus, shared responsibility for health and safety in the workplace environment is now more clearly perceived by our teams, whose members adopt appropriate individual and collective preventive behaviors. The importance of this movement for the Company's results is reinforced at each edition of the Internal Accident Prevention Week (SIPAT).

- 6 SIPATS organized in 2017 involving employees and service providers.
- 398 employees participated in CIPA and the Emergency Brigade training and development sessions.
- 2,280 graduates in regulatory norms.
- Monthly meetings of emergency brigades for discussions and simulations of preventive and corrective actions.

403-1 Employees engaged in Health and Safety Committees

	Paper SC Campina da Alegria	Corrugated Containerboard Packaging SC Campina da Alegria	Corrugated Containerboard Packaging SP Indaiatuba	Corrugated Containerboard Packaging SP Vila Maria	Paper MG Santa Luzia	Resin RS Balneário Pinhal
No. of committees in the Unit	156		63	58	56	65
Employees who are members of health and safety committees, per unit	14.18%		17.17%	15.10%	34.15%	80.25%

Members of Health and Safety Committees (by functional category)

	FUNCTIONAL CATEGORY		
	About the total number of employees	About total leadership positions	About total operational positions
Emergency brigade	13.28 %	0.48 %	12.80 %
Internal Accident Prevention Committee (CIPA)	3.34	0.57	2.77
Noise and Ergonomics Committee (CIRE)	0.38	0.05	0.33

2016	0.00	10.55	12.60	14.14	21.51	22.45	17.85	33.40	16.66
2017	0.00	13.79	18.98	9.98	18.03	26.46	44.57	49.29	20.18

Number of days lost per work related accident

In 2017, we did not register any work-related accidents leading to disability. This fact indicates that there are no days to log on the indicator.

How is this calculated? (Days lost through occupational accidents/average of employees in the current year, pursuant to MTE guidelines).

How to interpret the data? The smaller, the better.

2015	0	428	372	34	786	2,106	1	92	3,819
2016	0	535	21	227	528	1,969	21	140	3,441
2017	0	795	81	418	479	248	50	0	2,257

Number of days lost per doctor's note (per capita)

How is this calculated? (Days lost through occupational accidents/average of employees in the current year)

How to interpret the data? The smaller, the better.

2015	2.93	2.88	2.27	3.95	4.06	3.83	2.91	7.24	3.73
2016	1.84	2.54	2.93	4.45	3.48	3.02	3.76	9.40	3.77
2017	2.54	2.18	3.18	3.39	2.81	3.41	3.83	9.91	3.85

Absenteeism

Employees not available, regardless of the reason.

How is this calculated? Numbers of hours lost by doctor's note and absence, justified or not.

How to interpret the data? The smaller, the better.

2015	0.80	1.16	0.90	2.40	1.74	1.73	1.27	5.18	1.82
2016	0.14	0.80	0.84	1.70	1.09	0.95	1.01	3.43	1.05
2017	0.59	0.70	1.04	1.48	1.13	0.87	0.99	3.64	1.04

(403-4) Our trade union agreements do not address specific topics relating to health and safety, over and above that which is required by law.

programa **cresce** (Grow Program)

The People Development team acts as a partner with our leaders, seeking to understand the reality of each unit and areas of support and provide learning methods to deal with the business and market challenges. Also inspired in the Company's Strategic Plan, it organizes all these measures through the Cresce (Grow) Program, encouraging practices so that each employee contributes to the business with his or her best deliveries and results. Among the Program's main actions are:



Lidera 2020



Incentives for formal education



Internal training, external and in-company courses



The Elida de Castro e Freitas Druck Library

See below detailed information:

- 26 hours of training per employee in 2017.
- R\$ 659,000 in training and development actions.
- R\$ 652,000 earmarked for education subsidies.

We began mapping technical capacities per position in the Corrugated Containerboard Packaging Unit SC - Campina da Alegria, focusing on the Conversion area. In 2018, this work will continue.

Beginning in 2018, we plan to bolster the learning culture and offer better solutions to assist management in delivering a stimulating environment for high-performance teams. Toward this aim, we will seek to add new significance to our learning methods based on a Corporate Education program structured through three in-house schools: ITec (technical), DNA (culture) and LIDERA (leadership and protagonism).

Development of Coordinators and Supervisors



Since 2013, the program has featured a special training regimen to align the development of the current leaders and top talents with the Company's strategies.

As a result, our leaders today are more mature in their professional roles and are equipped with management tools that facilitate the daily progress of their teams. Our staff now is strengthened and better prepared to contribute to the Company's future challenges. Based on the 2018-2027 strategic plan, in 2018 we will focus on developing the necessary skills to move our business plan forward.



Incentives for formal education

We follow a policy that encourages the formal education of our employees through technical, language, undergraduate and specialization courses. A portion of the monthly cost is subsidized by the Company and the employee is encouraged to develop his or her research projects internally. In 2017, more than R\$ 652,000 was invested in the program.



Internal training, external and in-company courses

In addition to encouraging and subsidizing the participation of our employees in courses and outside events, we offer in-company training and internal education designed to provide customized qualification opportunities to face our common challenges. Among 2017's achievements, the following were highlights:

Training of Corrugator Operators:

In order to improve our decision-making capacity, we have developed an in-house training program for the Corrugator operators at the Packaging Unit SP - Indaiatuba. Through this work, we also encourage self-knowledge and the improvement of results-oriented teamwork. In all, 16 operators participated in this training process.

Resins School and Training of Packaging Operators:

Both initiatives continued in 2017, focusing on training operational leaders to provide their teams with technical orientation and improving teamwork, seeking superior results.

Dissemination of the Strategy (2015-2025 Cycle):

In 2017, we were recognized for the case history about the dissemination of our strategy, winning the ABRH-RS TOP Human Being Award. This project involved the efforts of an internal multidisciplinary team to develop a training program that was both fun and dynamic and focused on our Strategic Plan for the 2015-2025 cycle. The program was applied by a group of internal facilitators so that all the employees understood their own importance within the Company's overall context, aiming to motivate them to help meet our targets.



The Elida de Castro e Freitas Druck Library

To encourage the habit of reading and continuous learning, Irani operates two libraries developed through a partnership with the Social Service for Industry (SESI), one in Vargem Bonita and another in Porto Alegre (RS). Units that do not have a library physical structure receive itinerant visits and/or have set up small Reading Corner spaces.

⁽⁴⁰⁴⁻¹⁾ Average hours of training per functional category

Functional Category	2015			2016			2017		
	Total work load	No. of employees	Average hours of training	Total work load	No. of employees	Average hours of training	Total work load	No. of employees	Average hours of training
Leadership	13,199	188	70	13,117	167	79	13,944	168	83
Administrative	9,665	370	26	8,965	371	24	8,230	340	24
Technician	8,652	259	34	7,455	237	31	6,634	254	26
Operational	39,738	1,745	23	35,774	1,727	21	36,530	1,751	21
TOTAL	71,254	2,562	28	65,310	2,502	26	65,052	2,513	26

⁽⁴⁰⁴⁻¹⁾ Average hours of training per gender

Gender	2015			2016			2017		
	Total workload	No. of employees	Average hours of training	Total workload	No. of employees	Average hours of training	Total workload	No. of employees	Average hours of training
Women	9,477	452	21	10,684	406	26	11,761	368	32
Men	61,779	2,174	28	54,626	2,096	26	53,577	2,145	25

programa
motivã
(Motivate Program)

We believe that a stimulating environment for the development of high-performance teams is the result coordinated action, including careful assessment of our organizational climate.

(102-43) Through this Program, we identify the level of employee satisfaction based on the climate research according to the Great Place to Work methodology survey conducted every two years.

The survey's results orient the work of the management team, implementing corporate and unit action plans for each area. The core idea is to help them deal more organically and recurrently with the issues that offer improvement opportunities.

Climate Management Support Groups act locally in each business unit, with the purpose of supporting the leadership in these actions.

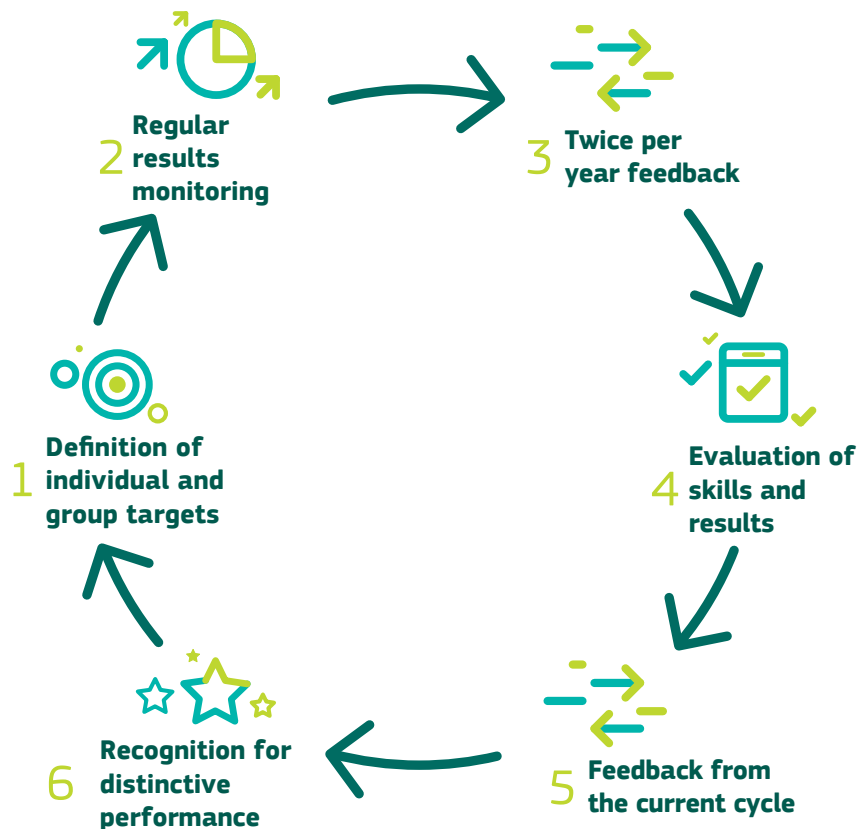
- The employee satisfaction index rose by 4 percentage points, from 70% in the 2015 survey to 74% in the 2017 cycle.
- This was the second survey cycle conducted according to the GPTW methodology.
- The survey response rate in 2017 was 75% while in the previous cycle it was 69%.
- The themes Celebration, Leadership Posture and Wage and Salary Policy, related to the Impartiality, Respect and Camaraderie dimensions, were highlights of the action plans.

The measures were implemented as soon we were able to reinforce the significance of the nine cultural practices evidenced by the methodology (Inspire, Speak, Listen, Develop, Care, Celebrate, Share). **We were recognized as one of the best companies in which to work in Rio Grande do Sul and Santa Catarina in 2017.**

programa
supera
(Overcome Program)

Much more than a performance appraisal. Supera is a skills-based evaluation and results management program designed to provide self-knowledge, personal development, a bolstered feedback culture, talent identification and recognition for employees with outstanding performances.

The Program cycle is annual and comprises:



At the end of each cycle, a result analysis is presented to the Executive Board.

Percentage of employees who received regular performance and career evaluations

	2015			2016			2017		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
Leadership	6%	1%	7%	6%	1%	7%	6%	1%	7%
Administrative	7%	6%	13%	7%	6%	13%	7%	7%	13%
Technician	9%	1%	10%	10%	1%	11%	10%	1%	11%
Operational	55%	7%	62%	56%	7%	63%	55%	7%	63%
TOTAL	77%	15%	92%	79%	15%	94%	78%	16%	94%

In 2018, we will refine the Supera Program's methodology, updating the list of skills and seeking to reduce the level of evaluation subjectivity.



1 Definition of individual and group targets

We believe that individual and collective goals, when defined by leaders and their teams together, provide the necessary engagement to awaken in each one the spirit of responsibility and incentive to achieve the desired results.



3 Twice per year feedback

Informal feedback is encouraged throughout the period to make the actions aimed at achieving the results and expected performances for the period more dynamic and transparent. Formally, during the annual Supera cycle, two formal feedback moments occurred: the first was six months after the beginning of the cycle and the second at closure.

To prepare the leaders and led, we conduct feedback warm-up meetings to reinforce the sense of each of the skills assessed by the Program and to share tips on how to make this moment an opportunity for personal and professional development.



2 Regular results monitoring

Periodic monitoring of results is carried out with the aim of implementing, in a timely and appropriate manner, corrective measures to achieve the targets set for the cycle.



4 Evaluation of skills and results

We encourage that the focus of each person's competency assessment is aligned with the expectation of the position he or she holds, resulting in a fairer and more unbiased analysis. It is conducted once at the end of the cycle and covers 100 % of our direct employees, divided into three groups:

Leadership - applied to all formal leadership in the Company with self-assessments and evaluations in the 360° format, resulting from the average of the evaluations of the immediate superior, peers and direct subordinates. Skills evaluated include Leadership; Communication; Customer Focus; Planning, organization and control; Focus on results; Entrepreneurship; Relationship building; Innovation; Culture of Excellence; Teamwork and Self-development.

Administrative/Sales: encompasses employees who carry out activities of this nature without formal leadership. In addition to conducting a self-assessment, they are evaluated by the immediate superior and peers in relation to Communication; Customer Focus; Self development; Focus on results; Innovation; Building Relationships and Teamwork skills.

Operational: all employees who work directly in the operation of the industrial units and who do not hold leadership positions perform self-assessments and are evaluated by the immediate superior based on competencies such as Culture of Excellence, Teamwork, Self-Development and Focus on Results.



5 Feedback from the current cycle

Informal feedback is encouraged throughout the period to make the actions aimed at achieving the results and expected performances for the period more dynamic and transparent. Formally, during the annual Supera cycle, two formal feedback moments occurred: the first was six months after the beginning of the cycle and the second at closure.

To prepare the leaders and led, we conduct feedback warm-up meetings to reinforce the sense of each of the skills assessed by the Program and to share tips on how to make this moment an opportunity for personal and professional development.



6 Recognition for distinctive performance

The final result of the performance of each employee is determined from the crossing-checking of the results achieved and the final average of the skills evaluations. Once consolidated, the result is mirrored to a matrix that determines the level of performance of the employee that will result in the payment of a portion that varies from 0% to 150% of his nominal salary.

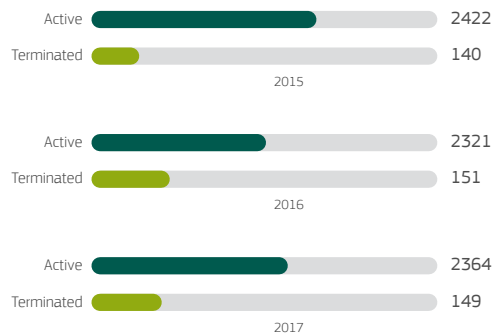
(102-7, 102-8, 401-1, 405-1, 405-2)

The data presented below were extracted from the system used by the Company, taking 12/31/2017 as the base date and do not include information from third parties. We consider all the subsidiaries of Irani and subsidiaries as important operational units because they have the same degree of representativeness for the group, maintaining the extension of their policies and strategies, seeking development and growth. The leadership group consists of: supervisors, coordinators, superintendents, managers and officers.

Total number of employees



Employee Range



Number of employees per business unit

	2015		2016		2017	
	No.	%	No.	%	No.	%
Corrugated Containerboard Packaging SC – Campina da Alegria	316	12.33%	308	12.46%	306	12.18%
Corrugated Containerboard Packaging SP – Indaiatuba	374	14.60%	361	14.60%	367	14.60%
Corrugated Containerboard Packaging SP – Vila Maria	408	15.93%	390	15.78%	384	15.28%
Resin RS – Balneário Pinhal	72	2.81%	77	3.11%	79	3.14%
Paper MG – Santa Luzia	183	7.14%	163	6.59%	164	6.53%
Office RS – Porto Alegre	42	1.64%	39	1.58%	37	1.47%
Hflor – Balneário Pinhal	287	11.20%	285	11.53%	262	10.43%
Paper Unit SC – Campina da Alegria	749	29.23%	735	29.73%	795	31.64%
Office SC – Joaçaba	131	5.11%	114	4.61%	119	4.74%
TOTAL	2,562		2,472		2,513	

Percentage of employees by gender

2015		2016		2017	
Men	Women	Men	Women	Men	Women
2035	387	1962	359	2036	328
84%	16%	84%	16%	85%	15%

	2015		2016		2017	
	Men	Women	Men	Women	Men	Women
C. C. Packaging SC – Campina da Alegria	264	46	257	40	267	32
C. C. Packaging SP – Indaiatuba	328	31	312	33	320	32
C. C. Packaging SP – Vila Maria	315	69	303	63	300	60
Resin RS – Balneário Pinhal	48	11	49	11	51	12
Paper MG – Santa Luzia	145	20	133	15	136	14
Office RS – Porto Alegre	20	13	17	13	17	12
Hflor – Balneário Pinhal	187	81	186	75	176	55
Paper SC – Campina da Alegria	654	59	639	61	696	65
Office SC – Joaçaba	75	56	66	48	46	73

	Women			Men			
	Up to 30 years old	Between 30 and 50	Total Women	Up to 30 years old	Between 30 and 50	More than 50	Total Men
C.C. Packaging SC – Campina da Alegria	1	1	1%	43	2	-	14%
C.C. Packaging SP – Indaiatuba	1	-	0%	33	6	-	12%
C.C. Packaging SP – Vila Maria	4	-	1%	18	11	-	9%
Office RS – Porto Alegre	-	2	1%	1	1	-	1%
Office SC – Joaçaba	3	1	1%	1	1	-	1%
HFlor – Balneário Pinhal	7	3	3%	20	16	1	11%
Paper MG – Santa Luzia	2	1	1%	4	7	-	3%
Paper SC – Campina Da Alegria	4	6	3%	81	34	3	35%
Resin RS – Balneário Pinhal	2	1	1%	8	3	-	3%
Total	7%	5%	12%	63%	24%	1%	88%

Percentage of employees by functional category

	2015	2016	2017
Leadership	7%	7%	7%
Administrative	14%	14%	13%
Operational	69%	69%	71%
Technician	10%	10%	9%

	2015		2016		2017	
	Men	Women	Men	Women	Men	Women
Leadership	8%	6%	7%	5%	7%	5%
Administrative	9%	41%	9%	40%	9%	40%
Operational	11%	5%	12%	5%	11%	5%
Technician	72%	49%	73%	50%	73%	50%

(405-1) Percentage of employees by functional category, gender and age group

Category Functional	Women				Men			
	Up to 30 years old	Between 30 and 50	More than 50	Total Women	Up to 30 years old	Between 30 and 50	More than 50	Total Men
Leadership	4	16	4	1%	10	113	22	6%
Administrative	62	79	4	6%	77	84	10	7%
Operational	35	119	26	7%	663	747	200	64%
Technician	7	12	-	1%	67	124	28	9%
Total	4%	9%	1%	15%	33%	42%	10%	85%

Groups Leadership	Women				Men			
	Up to 30 years old	Between 30 and 50	More than 50	Total Women	Up to 30 years old	Between 30 and 50	More than 50	Total Men
Executive Board	0	0	0	0%	0	4	1	3%
Management	1	2	0	2%	2	24	6	19%
Supervisors	2	5	3	6%	5	42	9	33%
Coordinator	0	10	1	7%	1	43	7	37%
Superintendent	0	0	0	0%	0	0	1	1%
Total	2%	10%	2%	14%	5%	67%	14%	86%

Age group of employees

	2015	2016	2017
Up to 30 years old	34.07 %	36.17 %	37.41 %
31 to 40 years	32.28 %	32.08 %	30.88 %
41 to 50 years	20.69 %	19.70 %	20.02 %
From 51 to 60 years	10.38 %	9.67 %	9.39 %
Over 60 years	2.58 %	2.39 %	2.30 %

Total number and rate of new hires broken down by age group and gender

	Women		Men	
Age Group	no.	%	no.	%
Under 30	23	7 %	203	61 %
Between 30 and 50	15	5 %	87	26 %
Over 50	0	0 %	4	1 %

Turnover broken down by age group and gender

	Women	Men
Age Group	%	%
Under 30	4.8 %	6.3 %
Between 30 and 50	3.8 %	2.9 %
Over 50	0.0 %	0.5 %

Rate of turnover broken down by Unit

Unit	Rate
C. C. Packaging SC – Campina da Alegria	13.4 %
C. C. Packaging SP – Indaiatuba	12.5 %
C. C. Packaging SP – Vila Maria	6.5 %
Resin – Balneário Pinhal	18.9 %
Paper MG – Santa Luzia	6.6 %
Office RS – Porto Alegre	10.3 %
Hflor – Balneário Pinhal	17.0 %
Paper SC – Campina da Alegria	9.4 %
Pffice SC – Joaçaba	7.0 %

Employee time in company

	2015	2016	2017
Up to 1 year	15.50 %	10.23 %	13.09 %
From 1 to 5 years	36.89 %	37.01 %	33.15 %
From 5 to 10 years	20.18 %	24.92 %	24.79 %
10 to 15 years	12.06 %	10.96 %	10.90 %
15 to 20 years	6.67 %	7.85 %	8.52 %
From 20 to 25 years old	4.29 %	4.21 %	4.89 %
From 25 – 30	2.34 %	2.63 %	2.27 %
Over 30 years	2.07 %	2.18 %	2.39 %

	2015		2016		2017	
Employment Contract	Women	Men	Women	Men	Women	Men
CLT - Undetermined	401	2,120	370	2,050	352	2,121
CLT - Apprentices	20	17	24	24	16	18
Statutory	-	4	-	4	-	6
Overall Total	421	2,141	394	2,078	368	2,145

Hiring regime

	2015		2016		2017	
	Men	Women	Men	Women	Men	Women
Part Time	14	18	22	20	12	13
Full Time	2,127	403	2,056	374	2,133	355

(102-36, 102-38, 102-39) Remuneration

(102-36) We currently use external consultants to conduct job evaluations and market research, which generates information for the decision-making of the Board of Executive Officers regarding the Company's compensation strategy.

Proportionally, the highest paid individual in the organization receives ⁽¹⁰²⁻³⁸⁾ 30.24 salaries more than the average of the other employees, with the annual readjustment of 28.24%. For the preparation of this data, the total annual remuneration was as follows: base salary + 13th salary + vacation pay. The average of the lower wages practiced corresponds to 1.32 of the minimum wage in force in Brazil, on December 31, 2017. In relation to the total number of employees, 12.93% receive the job category floor. The average annual adjustment practiced was ⁽¹⁰²⁻³⁹⁾ 6.50% for all employees.

Proportion of wages paid to men and women

	2015		2016		2017	
	Men	Women	Men	Women	Men	Women
Leadership	1	0.78	1	0.76	1	0.78
Administrative	1	0.90	1	0.91	1	0.90
Operational	1	0.87	1	0.94	1	0.91
Technician	1	0.75	1	0.79	1	0.80

Units	Administrative				Leadership				Operational				Technical			
	QTD	Women	Salaries		QTD	Women	Salaries		QTD	Women	Salaries		QTD	Women	Salaries	
C.C. Packaging SC – Campina da Alegria	10	0.71	11	1	1	0.49	19	1	23	1.02	215	1	2	0.84	25	1
C.C. Packaging SP – Indaiatuba	24	0.83	34	1	2	1.06	20	1	9	1.01	248	1	1	0.74	29	1
C.C. Packaging SP – Vila Maria	27	0.79	19	1	3	0.98	18	1	29	0.83	268	1	2	0.94	18	1
Office RS – Porto Alegre	10	0.78	11	1	2	0.23	6	1	4	0.90	4	1	-	-	-	-
Office SC – Joaçaba	38	0.84	50	1	7	0.50	16	1	-	-	-	-	1	1.22	7	1
HFlor – Balneário Pinhal	2	1.00	2	1	2	0.59	9	1	67	0.99	180	1	-	-	-	-
Paper MG – Santa Luzia	8	0.78	11	1	1	0.65	8	1	5	0.84	103	1	1	0.61	27	1
Paper SC – Campina Da Alegria	16	1.24	23	1	5	0.73	43	1	39	0.82	550	1	1	0.79	107	1
Resin RS – Balneário Pinhal	9	1.18	10	1	1	1.67	6	1	4	0.93	42	1	1	0.69	6	1
Total	145	0.85	171	1	24	0.68	145	1	180	0.80	1,610	1	19	0.84	219	1

(201-1) Total amount of payroll (R\$ '000)

2015	2016	2017
145	155	109

	2015	2016	2017
Profit Sharing Plan (PPR)	5,176	4,281	5,777
Supera Programa	5,590	6,424	6,310

We offer equal benefits to all employees, regardless of functional category and workload. Beginning in 2018, we implemented changes in the maintenance of benefits for retirees.

(201-1) Annual investment in the main benefits (R\$ '000)

	2015	2016	2017
Meals	11,926	12,126	12,073
Transportation	6,151	6,724	7,379
Life Insurance	226	208	218
Health Insurance Plan	8,310	8,865	10,370
Total	26,613	27,293	30,040

Note: Offered to all direct employees. Meals considers employee meal values and basic food basket.

⁽⁴⁰¹⁻³⁾ Between January 1 and December 31, 2017, we had 37 employees on parental leave: 34 women and three men. After the leave period, 26 people returned to work, of which 11.54% were men and 88.46% women, totaling 70.27%. The retention rate is 7.69% considering employees in work activity one year after returning to work. Of this percentage, all are women.



expanded
attitude

Social-environmental responsibility

To embrace the
future is to be a
point of reference in
the best practices
of sustainability.

Social-environmental responsibility



Environmental responsibility is intrinsic to processes, evidenced by our strategic intention. Our commitment involves the generation of positive impacts through the efficiency of our processes, with a focus on resource reuse and environmental preservation.

(DMA, 307-1) Our environmental management is also guided by current legislation and monitored through a software program that is updated monthly, whose content guides our adaption and compliance plans. The Environmental Policy and the certifications already achieved and/or being worked on also guide our practices.

Unit	FSC®	ISO 14001:2015	ISO 14064:2006
Paper SC - Campina da Alegria	✓		✓
Paper MG - Santa Luzia	✓		✓
C. C. Packaging SC - Campina da Alegria	✓	✓	✓
C. C. Packaging SP - Indaiatuba	✓	✓	✓
C. C. Packaging SP - Vila Maria	✓	✓	✓
Resin RS - Balneário Pinhal	✓		✓

FSC®: Forest Stewardship Council® is an international, non-profit organization comprised of researchers, environmentalists, entities and business people from around the world. Created in 1993, the Council is the result of an initiative for environmental preservation worldwide. The objective is to promote proper management and certify companies that comply with established principles and criteria.

ISO 14001:2015: this Standard specifies the requirements for the Environmental Management System to the create a structure for environmental protection and rapid response to changes in environmental conditions. It considers environmental aspects influenced by the organization and others that can be controlled by it.

ISO 14064:2016: the international standard that certifies greenhouse gas inventories, voluntarily prepared by the organizations.

In units that have not yet been certified with ISO 14001: 2015, we have been working toward compliance with legislation and adapting infrastructure.

(102-43) This set of guidelines oriented the definition of internal procedures for the identification of environmental aspects and impacts, environmental licensing and containment of chemicals. We also have environmental procedures that respect the characteristics of our business and the particularities of each Unit.

(102-11) Environmental controls are defined based on an analysis of the significance of impacts identified in our production process. Our internal audits also seek to ensure compliance with processes and mitigation of impacts.

We completed 2017 with R\$ 527,659.39 invested in environmental projects and actions. The investments that have been made over time, in a continuous and significant manner, seek to mitigate the impacts inherent in our activities.

Water

^(DMA) From planting the seeds to the final product, water is essential to our processes and is closely linked to our business strategy. In Santa Catarina, water resources directly impact the generation of part of the energy consumed in our largest industrial park, coming from three Small Hydroelectric Plants (SHPs).

We constantly monitor opportunities for optimizing operational efficiencies by reducing water consumption and alternatives for reuse and circuit closures. The conservation of biodiversity, the preservation of springs and other water sources, as well as appropriate forest management, are practices necessary to guarantee the availability of this resource in the long term.

³⁰³⁻¹ Total water withdrawn per source (m³)

Source	2015	2016	2017
Surface	4,701,968	4,695,140	4,745,355
Underground	179,927	172,487	154,437
Water Distributor	11,116	9,838	17,201
Total	4,893,011	4,877,465	4,916,993

Surface: Paper SC, Paper MG and C.C. Packaging SC Units (River Capture)

Underground: Paper MG, C.C. Packaging SP - Indaiatuba, C.C. Packaging SP - Vila Maria and Resins Units (Wells)

Concessionaire: Papel SC, C.C. Packaging SC, C.C. Packaging SP - Vila Maria and Resin Units (Casan, Sabesp and Corsan)

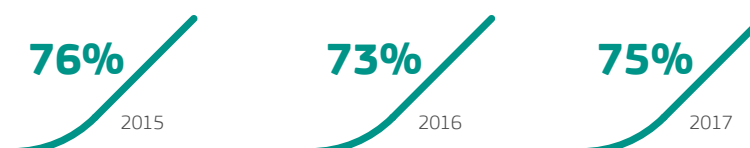
Over time, these practices have helped us to reduce the specific water consumption (in m³) per ton produced.

³⁰³⁻¹ Specific water consumption (m³) per ton produced

Units	Specific / gross production			Specific / net production		
	2015	2016	2017	2015	2016	2017
Paper SC - Campina da Alegria	19.57	19.56	18.90	20.62	20.80	20.00
Paper MG - Santa Luzia	2.33	2.52	3.48	2.40	2.64	3.65
C.C. Packaging SC - Campina da Alegria	0.21	0.20	0.20	0.22	0.20	0.23
C.C. Packaging SP - Indaiatuba	0.27	0.31	0.28	0.28	0.32	0.31
C.C. Packaging SP - Vila Maria	0.57	0.56	0.46	0.74	0.59	0.48
Resin RS - Balneário Pinhal	1.71	2.35	1.99	4.00	2.35	1.99

⁽³⁰³⁻²⁾ All water sources in our units, except those from concessionaires, are conceded by the responsible authority. This grant for capture and use of water indicates that there is no significant impact on the respective water bodies due to the volume captured.

Percentage of recycled water - Paper SC Unit



⁽³⁰³⁻³⁾ Reused and unused water from the SC Paper Unit - Campina da Alegria

	2015	2016	2017
Water not reused (m ³)	4,655,283.88	4,643,554.40	4,620,402.78
Water not reused (m ³)	14,995,080.00	12,434,824.66	14,072,687.28
Total (m³)	19,650,363.88	17,078,379.06	18,693,090.06

Note: data are obtained from flow meters and outflow totalizers.

Waste

Monitoring the consumption of raw materials and inputs in the process contributes to the management of the risks linked to this topic, since they directly impact our operating costs.

The promotion of the circular economy in the value chain is a commitment of Irani, incorporated into our business strategy and encouraged by the National Policy on Solid Waste (PNRS - Law 12.305/10).

⁽¹⁰²⁻¹²⁾ In addition, through the Indústria Brasileira de Árvores (Ibá) tree association, we participated in a Coalition led by the Corporate Commitment for Recycling (CEMPRE), which negotiated a sectorial agreement for implementation a reverse logistics system for packaging in general. The joint actions of the participating companies are aimed at reducing at least 22% of packaging disposed of in landfills by the end of 2018. Annual performance reports are periodically evaluated by the Ministry of Environment.

Specific internal procedures guide the collection and storage of our waste, according to NBR 10.004/2004, segregated per Class I (hazardous), Class II-A (non-inert) and Class II-B (inert), thus avoiding contamination. Our rigorous and constant monitoring permits reuse- and recycling-oriented analyses, reducing the volume of waste disposed in licensed landfills and significant environmental impacts.

Volume of renewable and non-renewable materials (tons)

	Renewable	Non-Renewable
Paper SC - Campina da Alegria	680,683.18	11,942.69
Paper MG - Santa Luzia	66,553.22	1,026.34
C.C. Packaging SC - Campina da Alegria	66,952.60	626.71
C.C. Packaging SP - Indaiatuba	86,596.49	683.01
C.C. Packaging SP - Vila Maria	66,830.97	342.68
Resin RS - Balneário Pinhal	13,982.51	Not applicable
Total	981,598.96	14,621.42

Note: only the materials consumed in the production process are considered.

Specific material consumption per ton produced

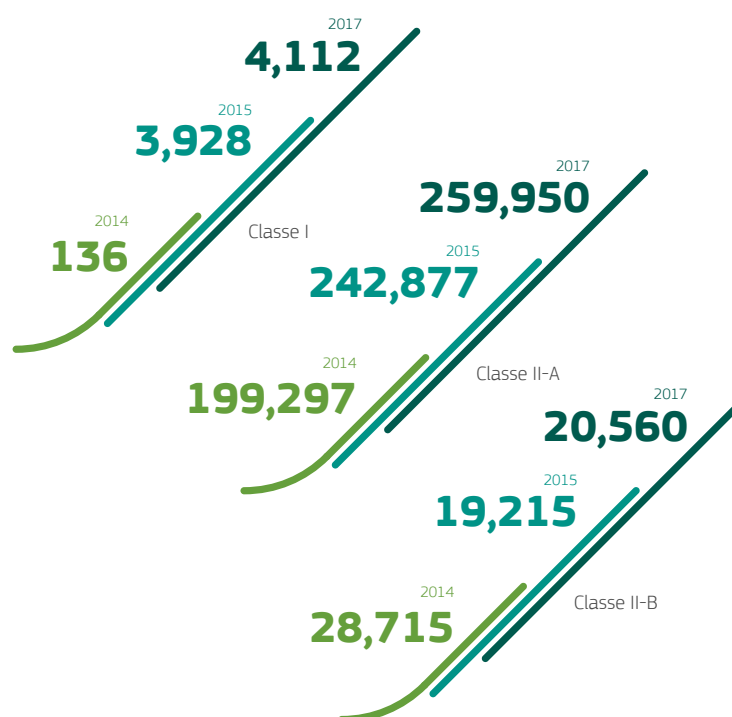
Unit	Specific / gross production			Specific / net production		
	2015	2016	2017	2015	2016	2017
Paper SC - Campina da Alegria	2.70	2.82	2.83	2.85	3.00	3.00
Paper MG - Santa Luzia	1.13	1.25	1.14	1.17	1.31	1.20
C.C. Packaging SC - Campina da Alegria	1.02	1.02	1.02	1.06	1.06	1.17
C.C. Packaging SP - Indaiatuba	1.03	1.04	1.02	1.06	1.09	1.14
C.C. Packaging SP - Vila Maria	1.09	1.02	1.05	1.08	1.07	1.09
Resin RS - Balneário Pinhal	1.25	1.25	1.19	1.25	1.25	1.19

Note: only the materials consumed in the production process are considered.

Total weight of waste

Unit	Total		
	2015	2016	2017
Paper SC - Campina da Alegria	207,887	232,863	249,562
Paper MG - Santa Luzia	3,336	5,486	6,480
C.C. Packaging SC - Campina da Alegria	10,185	8,982	9,573
C.C. Packaging SP - Indaiatuba	10,316	9,773	10,328
C.C. Packaging SP - Vila Maria	8,105	6,272	6,696
Resin RS - Balneário Pinhal	1,923	2,644	1,983
Total	241,752	266,020	284,622

Total waste weight by type



Note: the increase of class I waste was verified due to the newest reforms carried out in the Broby II and III ovens.

(306-2) Total weight of waste broken down by disposal method (tons)

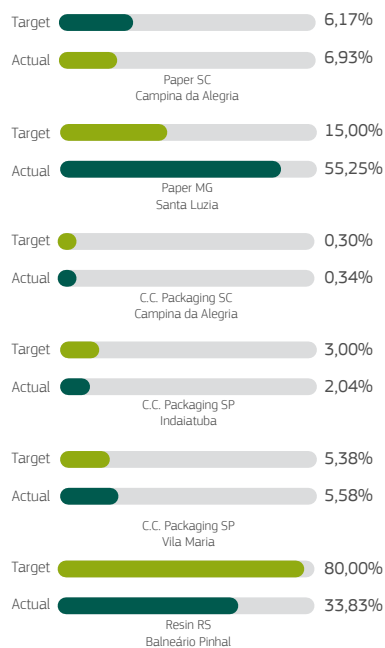
Disposal method	Non-Hazardous	Hazardous
Recycling	32,706.32	3,798.37
Reuse	90,491.83	0.00
Incineration	0.03	0.03
Blending	4.67	4.67
Composting	2,145.13	0.00
Remedial Tutoring	133,252.82	0.82
Landfill	21,913.69	308.06
Total	280,514.48	4,111.95

Note: the waste disposal method was determined based on the classification of waste, according to NBR 10.004. The total amount of hazardous waste was transported and treated by duly licensed companies. There was no import or export of hazardous waste, so there was no percentage in terms of international transportation.

Specific volume of waste per ton produced (tons)

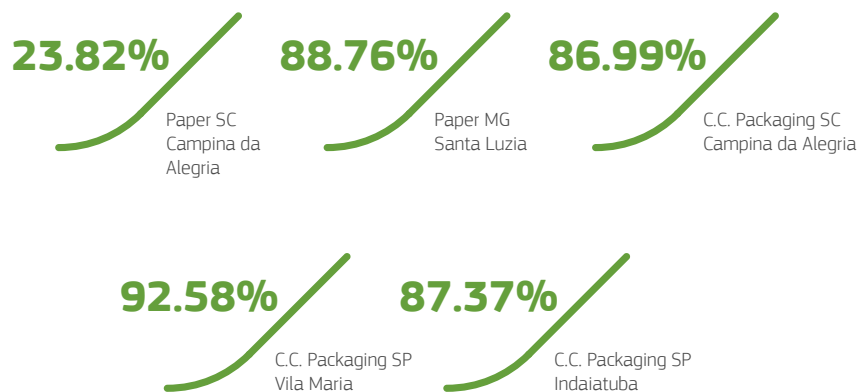
Unit	Specific / gross production			Specific / net production		
	2015	2016	2017	2015	2016	2017
Paper SC - Campina da Alegria	0.87	0.98	1.02	0.92	1.04	1.08
Paper MG - Santa Luzia	0.05	0.10	0.11	0.05	0.11	0.11
C.C. Packaging SC - Campina da Alegria	0.15	0.15	0.14	0.16	0.15	0.17
C.C. Packaging SP - Indaiatuba	0.12	0.13	0.12	0.12	0.13	0.14
C.C. Packaging SP - Vila Maria	0.13	0.11	0.10	0.13	0.11	0.11
Resin RS - Balneário Pinhal	0.20	0.22	0.17	0.20	0.22	0.17

Percentage of waste to landfill shipping

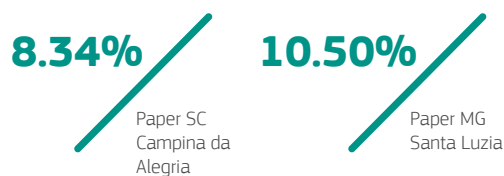


Note: At the Paper Unit MG, we studied the possibility of installing a plastic recycling plant. For its part, in the Resin Unit RS, due to the FEPAM requirement organic waste was sent to landfill.

(301-2) Recycled materials used in the process



(301-3) Recovered materials used in the process



Note: the trim from the corrugated containerboard packaging units was considered to be recovered material. Trim is a waste generated through the box and sheet production process. Controlling the quantity that returns to the SC Paper Unit is done through the invoices.

In addition to seeking opportunities to reduce the generation of waste from our processes, we prioritize innovative technologies and the development of our waste as a raw material in our own or partners' processes.

Corrugated cardboard accounts for about 70% of the paper pulp raw materials, contributing to the reduction of this type of waste in urban areas.

Given the characteristics and particularities of the production process, the SC Paper Units generate approximately one ton of waste per each ton of paper produced. Because it presents the Company's largest volume of waste generation, we have been dedicating our best efforts to this unit to discover solutions and alternatives that encourage the circular economy.

⁽³⁰⁶⁻⁴⁾ All waste recycled or disposed of externally is sent with a document of Movement and Transport of Residues (MTR), issued through the online control system of the Santa Catarina Environment Institute (IMA), ensuring that the waste is sent only to licensed companies in compliance with current legislation.



Categorized filter waste

Our woodyard generates the largest volume of waste at the Paper Unit - SC. For classification purposes, the wood chips classified as unsuitable for the production of pulp represent 19% of the total volume of residues generated in the Unit, or more than 4,000 tons a year. The entire volume is sent to the Cogeneration Boiler, generating energy for the production process. This alternative for the reuse of the waste meant the investment needed to purchase biomass to fuel the boiler was lower by more than R\$ 3 million. It also led to savings of almost R\$ 2.5 million regarding shipment of waste to the landfill, where it would emit approximately 2.8 thousand tons of greenhouse gases into the atmosphere.



Wood bark from debarker

The woodyard also generates the second largest volume of residues. This is bark, which represents 18% of the total volume of waste generated by the Unit, or more than 42,000 tons in the year, resulting from the debarking process. This residue is sent to be burned in the Cogeneration Boiler, generating energy for the production process. Through this initiative, we ceased investing almost R\$ 3 million/year for the purchase of biomass and avoided a cost of about R\$ 2.3 million/year to transport the waste to the landfill. We also avoided the emission of approximately 2.8 thousand tons of greenhouse gases in the atmosphere/year.



Calcium carbonate

The treatment of black liquor that is a by-product from paper production generates two residues: white liquor, which is returned to the process; and calcium carbonate, which corresponds to 17% of the total volume of waste generated in the Unit, or about 42,000 tons of the year, and is used for soil correction in agriculture, marketed in the three southern states of the country.

We have been registered with the Ministry of Agriculture and Livestock (MAPA) as an acidity corrective producer since 2009. In 2010, we obtained the product registration for the sale of calcium carbonate. This initiative allows farmers in the region to use this product as a acidity corrective at a more affordable cost.

As a result, we generate annual revenues of approximately R\$ 325,000/year from the sale of this product, avoiding costs of approximately R\$ 2.3 million/year to transport the total waste volume to a landfill. Furthermore, we stopped emitting about 2.8 thousand tons/year of greenhouse gases through the measure.



Fiber recovered from the ETE

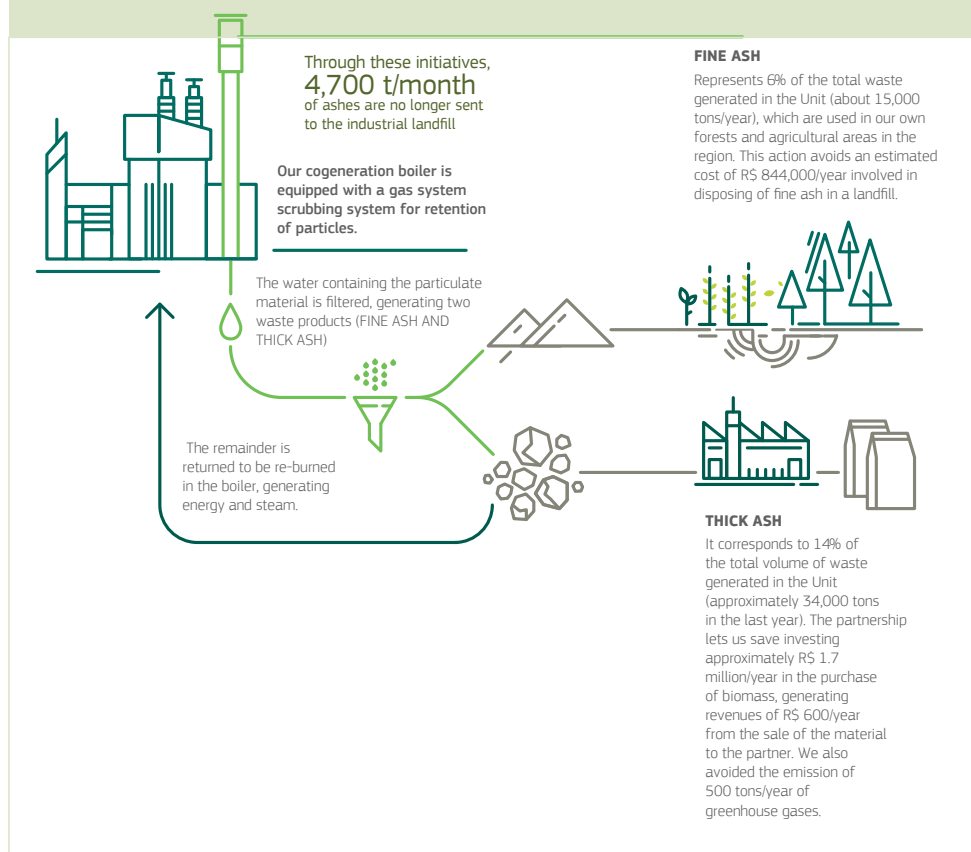
Approximately 13,000 tons/year of fibers are recovered annually by the effluent treatment plant (ETE). This material is used by a partner as a raw material for the production of agricultural substrate and organic fertilizer. With this initiative, we avoided a cost of approximately R\$ 740,000/year to transport the waste in a landfill and the emission of around 300 tons/year of greenhouse gases.

A study also is underway in partnership with the University of West of Santa Catarina (Xanxerê Campus) for analysis of the application of recovered fibers in the cultivation of vegetables such as soybeans, corn and pastureland grasses. We furthermore are conducting research in partnership with Empresa Brasileira de Pesquisa Agropecuária (EMBRAPA) about how to use this residue for forest soil nutritional purposes.



Ash from the energy cogeneration boiler

Irani also has a history of working with partners focused on sustainable processes.

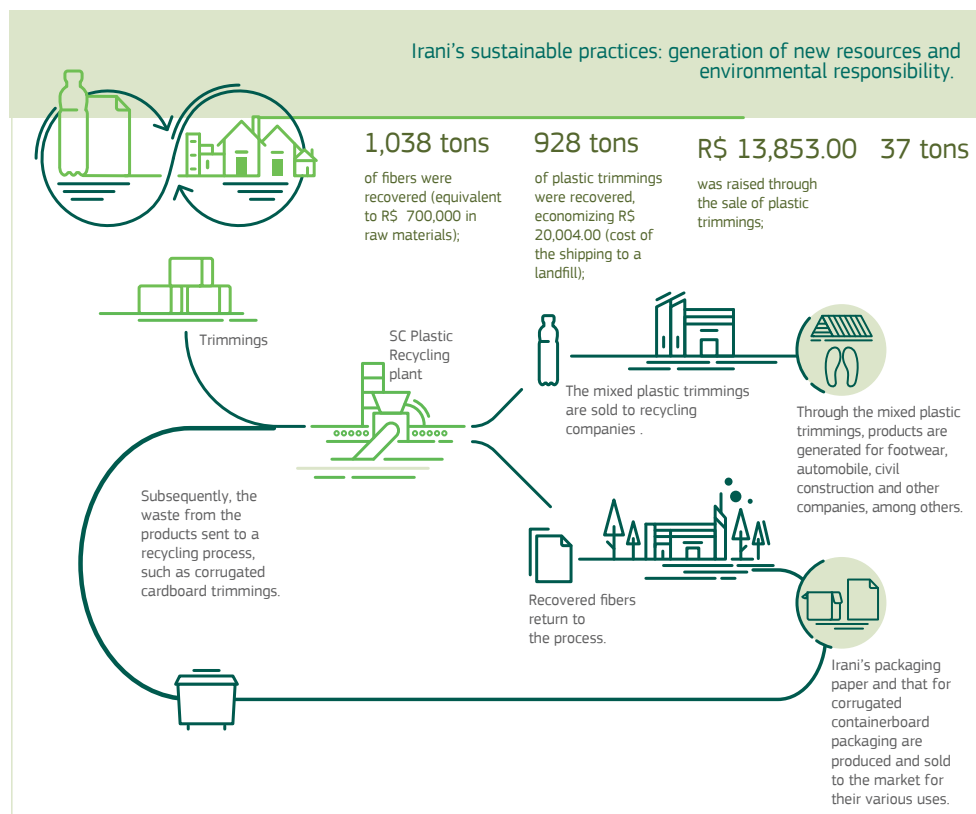


Through a partnership with the University of West Santa Catarina (Xanxerê Campus) a study was carried out to evaluate ash as secondary material for application in agriculture. The study showed that ash has great potential for use in agriculture, and that the amounts of calcium and potassium improve with the application of ash in the soil. In addition, the study showed that ash has no potential for polluting the environment. In 2017, the Ministry of Agriculture, Livestock and Supply (MAPA) registered us as a Secondary Material Generator category.

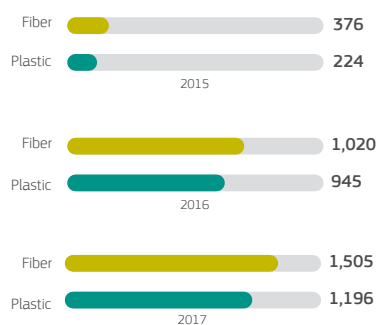


Plastic from paper trimmings

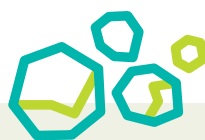
The plastic from the paper trimmings represents 6% of the total volume of waste generated by the Unit. We were pioneers in setting up a plant for plastic recycling and fiber recovery.



Annual plastic and fiber recovery (tonnes)



A new opportunity to recycle plastic has been tested in partnership with a local company to use this waste in the pyrolysis process, a thermal treatment designed to extract oil with petrochemical properties, such as diesel.



Wood bark from the alignment table

The woodyard alignment table generates 5% of the total volume of waste from the Paper Unit - SC (approximately 9,300 tons/year). The wood bark from this process also is sent for burning in the Cogeneration Boiler, generating energy for the unit, avoiding the cost of approximately R\$ 635,000/year in biomass to feed the boiler and R\$ 513,000/year to transport this waste to a landfill. With this initiative, we avoided emitting about 400 tons/year of greenhouse gases.



Soap leachings

Soap bleach comes from a chemical recovery process and comprises 4% of the total volume of waste generated in the Unit (about 3,700 tons/year). This alkaline residue is sold in the market for the extraction of tall oil, capable of replacing BPF oil and shale oil, besides being an input for the manufacture of resins, emulsifiers and mineral flotation. This initiative leads to the generation of approximately R\$ 377,000/year in revenues and avoids an estimated landfill disposal cost of R\$ 2.8 million/year.

Our practice of encouraging the circular economy led to the creation of startups generating jobs and income for the midwest region of Santa Catarina. Some even operate on land and structures ceded by Irani.

In the other units, there are also initiatives that encourage the circular economy. All the wood chips, trims and tubetes generated in the corrugated containerboard packaging production processes are sent to the Paper - SC and Paper - MG units, incorporated as raw materials and transformed, again, into packaging paper.

The Future We Want:
by 2027, to reduce the total volume of waste sent to landfills to 2%.

Effluents

^(DMA) Our effluents meet the parameters required by current legislation and their management is conducted in an integrated and systemic manner.

Deriving from the production processes, equipment cleaning, tank drainage, coolant usage and rainwater, effluents undergo an internal treatment process to remove the solid material and stabilize dissolved organic matter before the water is returned to its source of origin.

The use of control parameters is essential for the monitoring of the installation's water quality. It is conducted in a systematized and periodical manner by in-company laboratories and by laboratories accredited and recognized by the environmental agency, with reports sent to the regulatory authority on a monthly basis.

(306-1) Effluent volume generated (m³/year)

	2015	2016	2017
Paper SC - Campina da Alegria	4,498,765	4,478,095	4,306,039
C.C. Packaging SC - Campina da Alegria	11,410	11,145	9,890
C.C. Packaging SP - Indaiatuba	10,227	9,466	10,696
C.C. Packaging SP - Vila Maria	-	5,044	6,320
Resin RS - Balneário Pinhal	6,073	7,432	5,386
Total	4,526,475	4,511,182	4,360,998

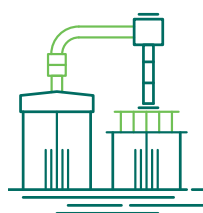
Treatment

Unit	Destination	Treatment Method	Does it comply with Conama Resolution 430/2011?	Is the effluent reused by another organization?
Paper SC Campina da Alegria	Rio do Mato	Biological - prolonged aeration	Yes	No
C.C. Packaging SC Campina da Alegria	Rio do Mato	Biological - prolonged aeration	Yes	No
C.C. Packaging SP Indaiatuba	City Treatment Station - ETE Mario Araldo Candello	Physical-chemical	Yes	No
C.C. Packaging SP Vila Maria	City treatment station - ETE Parque Novo Mundo	Physical-chemical	Yes	No
Resin RS Balneário Pinhal	Forest Irrigation	Physical-chemical	Yes	No

Specific effluent volume (m³) per ton produced

Unit	Specific / gross production			Specific / net production		
	2015	2016	2017	2015	2016	2017
Paper SC - Campina da Alegria	18.91	18.41	17.61	19.93	20.06	18.64
C.C. Packaging SC - Campina da Alegria	0.17	0.17	0.15	0.18	0.19	0.17
C.C. Packaging SP - Indaiatuba	0.12	0.11	0.13	0.12	0.13	0.14
Resin RS - Balneário Pinhal	0.63	0.77	0.46	0.63	0.62	0.46
C.C. Packaging SP - Vila Maria	0.00	0.00	0.10	0.00	0.09	0.10

(306-5) The bodies of water affected by discharges or drainage of water from the Company's effluent treatment processes are not located in environmental protection areas.



**MDL of Effluent
Treatment Station**

We were the first company in Latin America to have a Clean Development Mechanism (CDM) project for the treatment of industrial effluents validated by the United Nations (UN) and the first in the world to be fully aerobic.

This initiative included the modernization of an existing treatment system to serve the Paper and Corrugated Containerboard Packaging - SC Units, which together form our largest manufacturing complex — involving a secondary aerobic system treatment by means of activated sludge with prolonged aeration. This process prevents sludge from being deposited at the bottom of the lagoons that generates methane gas.

The CDM project is known as the Irani Wastewater Methane Avoidance Project and can be viewed on the UN website at <http://cdm.unfccc.int/Projects/DB/DNV-CUK1194334826.24/view>, under registry 1410. Renewed in 2015 until 2022.

In 2018, we intend to install a new secondary sludge extraction system, permitting the maintenance of operational variables in the activated sludge system as well as environmental compliance.

Energy

^(DMA) Energy self-sufficiency is one of the Company's strategic objectives.

Much of the energy consumed by the Company is its own, coming from Small Hydroelectric Plants installed around the largest industrial park in Santa Catarina and from boilers. They are considered sources of clean energy, since they are fueled from biomass and water resources.

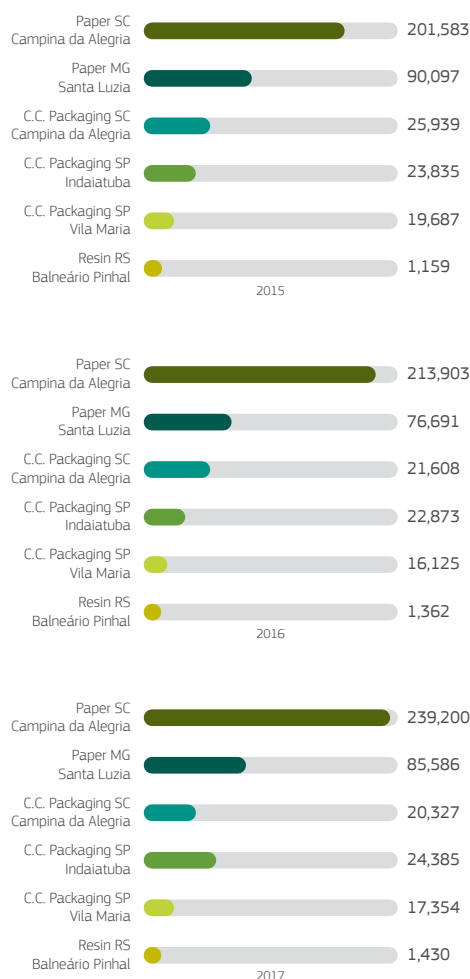
Over the years, due to process improvements, equipment replacement and engine overhauls, we have reduced our units' energy consumption.

In 2017, at the Paper Unit - MG, we installed a new natural gas-based boiler to replace a BPF oil-fired boiler. This measure contributed to higher power generation with a lower environmental impact.

The Future We Want:

In the medium term, our challenge is to work on the repowering of the SHPs, sources of clean energy for the Santa Catarina units.

Total energy consumption (GJ)



Fuel Consumption - Non-Renewable

2017
GJ

Paper SC	22,947.20
Paper MG	277,368,173.76
C. C. Packaging SC	6,643,117.19
C. C. Packaging SP	59,269,382.01
C. C. Packaging VM	70,243,339.34

Total **413,546,959.50**

Fuel Consumption - Renewable

2017
GJ

Paper SC	3,021,071.93
Resin RS	16,317.90

Total **16,317.90**

Steam consumption

GJ

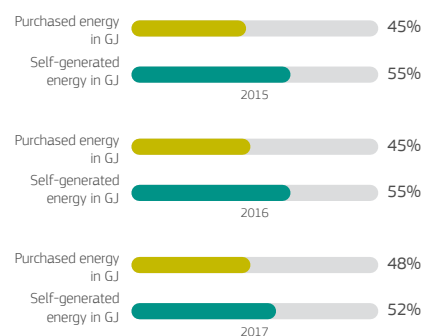
Paper SC - Campina da Alegria	2,574,747.04
Paper MG - Santa Luzia	180,513.07
C. C. Packaging SC - Campina da Alegria	42,039.80
C. C. Packaging SP - Indaiatuba	50,987.74
C. C. Packaging SP - Vila Maria	42,747.03
Resin RS - Balneário Pinhal	36,460.80

Total **2,927,495.48**

Note: the conversion factors were performed based on the guidelines available on the Petrobras "conversion formulas" website.

Fuel	Consumption (liters)	Conversion factor (kcal/l)	Consumption (Kcal)	Consumption (joules) 1kcal = 4184 joules	Consumption [MJ]
Diesel	5,128,414.30	9.16	46,976,274.99	196,548,734,549.79	196,548.73
Gasoline	60,521.52	8.33	503,841.65	2,108,073,480.34	2,108.07
Restaurant	20,852.82	11.75	245,020.64	1,025,166,336.84	1,025.17
Total					99,681.97

Purchased and self-generated energy



(302-3, 302-4, 302-5) Throughout 2017, we developed a series of initiatives aimed at reducing the consumption of electric energy such as the acquisition of more efficient mechanisms, equipment replacement, operational adjustments and use of LED lamps.

These measures led our units to reach the reduction and/or maintenance specific energy consumption targets, in MWh per ton produced.

Specific energy consumption (MWh) per ton produced

Units	Specific / gross production			Specific / net production		
	2015	2016	2017	2015	2016	2017
Paper SC - Campina da Alegria	0.71	0.75	0.75	0.80	0.79	0.79
Paper MG - Santa Luzia	0.38	0.39	0.40	0.41	0.41	0.42
C.C. Packaging SC - Campina da Alegria	0.11	0.10	0.09	0.10	0.10	0.10
C.C. Packaging SP - Indaiatuba	0.08	0.08	0.08	0.08	0.09	0.09
C.C. Packaging SP - Vila Maria	0.09	0.08	0.08	0.08	0.08	0.08
Resin RS - Balneário Pinhal	0.03	0.03	0.03	0.03	0.03	0.03



**MDL
Cogeneration Plant**

(302-5, 201-2) Since 2005, we have had a biomass-based cogeneration boiler at the Paper Unit SC - Campina da Alegria. This Clean Development Mechanism (CDM) provides for the reduction of greenhouse gas (GHG) emissions, such as methane and carbon dioxide. The initiative made Irani the first Brazilian company in the paper and pulp sector, and the second in the world to have carbon credits emitted under the Kyoto Protocol.

The reduction is possible due to the use of forest-based residues (biomass) as a source of energy for the boiler. With the CDM of the Cogeneration Plant, these wastes are reused and avoid the decomposition process in landfills that leads to greenhouse gas emissions.

Registered at the United Nations (UN) as 'Irani Biomass Electricity Generation Project' on July 7, 2006, the project is available for consultation at site http://cdm.unfccc.int/Issuance/cers_iss.html under the number 0404. Renovated in 2011 until 2018.



Emissions

(DMA) **We are a carbon neutral company by nature.** This means that our forests have a higher absorption potential than the Company's emissions.

We were also the first Brazilian company to certify a Greenhouse Gas (GHG) Inventory pursuant to ISO 14064:2006. We are guided by the GHG Protocol and the National Policy on Climate Change in scopes 1, 2 and 3 for the annual preparation of this document.

- **Scope 1 - Direct emissions:** all GHG emissions from the industrial process, ranging from fuels and reagents to disposal of waste in industrial landfills.
- **Scope 2 - Indirect emissions:** covers GHG emissions from energy purchased from third parties.
- **Scope 3 - Indirect emissions from other sources:** accounts for fuel consumption in transporting raw materials, inputs, products and waste to third-party landfills.

(305-1f, 305-2f) Our GHG Inventory comprises the identification and quantification of the GHG emission sources for the units where we have financial and operational control: Paper SC - Campina da Alegria, Paper MG - Santa Luzia, Corrugated Containerboard Packaging SC - Campina da Alegria, Corrugated Containerboard Packaging SP - Indaiatuba, Corrugated Containerboard Packaging SP - Vila Maria, Resin RS - Balneário Pinhal, our forest areas in Santa Catarina, the offices located in Joaçaba and Porto Alegre and the Habitasul Florestal subsidiary located in Rio Grande do Sul.

The results demonstrate how we have evolved in terms of gaseous emissions and removals.

(305-1) The base year used until 2013 was 2006, when we published our first greenhouse gas inventory. In 2013, we incorporated the Paper Unit MG - Santa Luzia and Corrugated Containerboard Packaging Unit SP - Vila Maria units and their respective emissions into Inventory and the challenge of improving operating efficiency at both locations. In this sense, as of 2017 we can see the reflection of this effort to reduce emissions, especially through the installation of more efficient boilers.

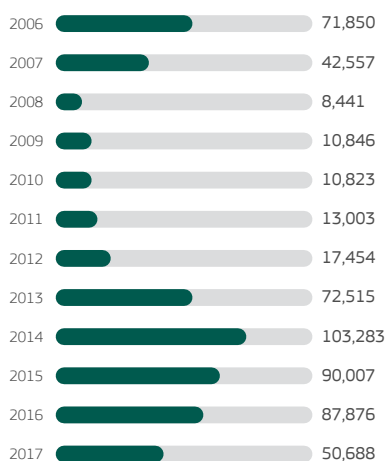
(305-1c) Emissions from biogenic sources
(in CO₂eq tons)

Biodiesel and gasoline - Scope 1	110.98
Ethanol - Scope 1	3.07
Biodiesel and gasoline - Scope 3	763.48
Black liquor - Scope 1	163,506.51
Biomass - Scope 1	765,521.51

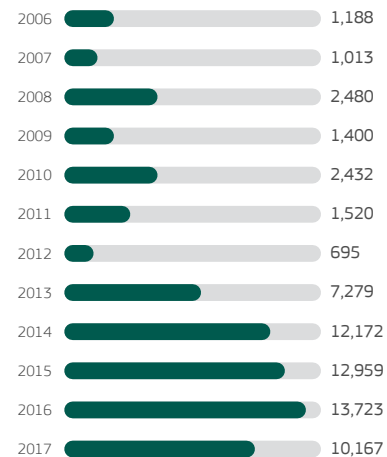
Total **929,905.55**

(305-1b, 305-2c, 305-3b) Our GHG inventory does not take into account emissions from HFCs, PFCs, SF₆, NF₃ because we do not use precursor substances of these gases in industrial processes.

Scope 1 – Direct GHG Emissions (Ton CO₂eq)



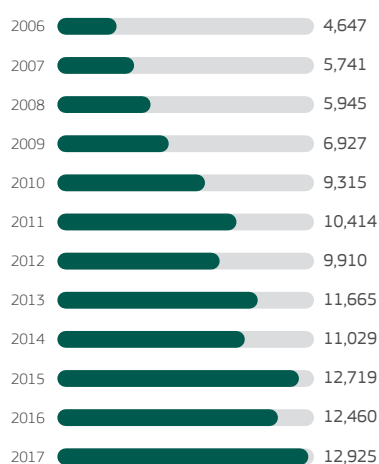
Scope 2 – Energy (Ton CO₂eq)



(305-3) It is possible to observe the evolution of Scope 3 as of the base year through the number of activities in each year. Over time, new sources have been included, although this scope does not require such accounting. Reflecting good management practices and a dedicated effort to improve our Inventory, we have chosen to make this inclusion.

Summary of Scope 3 (2006 to 2017)

Year	Scope 3 Emissions MgCO ₂ eq	Quantity of activities
2006	4,647	3
2007	5,741	3
2008	5,945	6
2009	6,927	13
2010	9,315	16
2011	10,414	15
2012	9,868	15
2013	11,665	15
2014	11,029	18
2015	12,719	18
2016	12,461	18
2017	12,926	20

Scope 3 – Other Indirect GHG Emissions (Ton CO₂eq)

(305-4c) Distribution of the indices according to the operating units

Units	Base Year: 2006			Base Year: 2013		2017			
	Production Emissions	IND	IND (1,2,3)	IND (1,2)	Production Emissions	IND (1,2,3)	IND (1,2)	IND (1,2)	IND (1,2)
Paper SC – Campina da Alegria	172,201	64,127	0.37	0.07	0.06	244,527	31,942	0.13	0.10
C.C. Packaging SC – Campina da Alegria	30,998	4,454	0.14	0.03	0.03	57,951	1,611	0.03	0.02
C.C. Packaging SP – Indaiatuba	47,859	4,725	0.10	0.08	0.06	76,338	7,516	0.10	0.05
Resin RS – Balneário Pinhal	5,467	550	0.10	1.79	1.79	11,781	239	0.02	0.02
Paper MG – Santa Luzia	-	-	-	0.72	0.69	59,374	19,975	0.34	0.27
C.C. Packaging SP – Vila Maria	-	-	-	0.22	0.21	59,075	5,735	0.10	0.08

(305-4d) GHG emissions by type of gas

Units	Carbon Dioxide – CO ₂	Methane – CH ₄	Nitrous Oxide – N ₂ O
Paper SC	10,831	11,981	9,131
C.C. Packaging SC	1,529	79	3
Forestry SC	4,790	7	80
Forestry RS	1,424	35	24
Resin RS	102	59	78
Administrative	399	0	4
C.C. Packaging SP – Indaiatuba	7,385	78	52
C.C. Packaging SP – Vila Maria	5,153	575	8
Paper MG	19,850	86	39
Total	51,463	12,901	9,418
Percentage of gases			
	69.75%	17.49%	12.76%

Note: Forestry SC and Forestry RS correspond to Irani's forest areas. Administrative comprises our offices in Joaçaba and Porto Alegre.

⁽³⁰⁵⁻⁵⁾ The Company's emissions totaled 73,782 Mg CO₂eq. This result was 5% lower than in 2006 and 35% below the year 2016. Starting in 2007, the CDM project of the Effluent Treatment Station was implemented with a consequent reduction of direct emissions. The increase identified as of 2013 considers the merging of the Paper MG and Corrugated Containerboard Packaging SP - Vila Maria units. As of 2017, direct emissions were reduced significantly in the RS Resin Unit, which failed to implement the anaerobic treatment of its effluents, starting to release them into a water body for irrigation purposes in the Rio Grande do Sul planting areas. There was also a significant reduction of emissions in the Paper MG Unit, where there was a correction in the calculation of the natural gas consumption. This was because in 2016 the demand for the average Grid emission factor was accounted for in the power utility's invoice, justified by the greater use of renewable energy in the country in 2017 and the high rainfall levels that reduced the need for the activation of thermoelectric plants. For their part, indirect emissions from other sources increased mainly due to the registration of the consumption of diesel oil for the transportation of waste from the Corrugated Containerboard Packaging Unit SP - Indaiatuba.

⁽³⁰⁵⁻⁵⁾ Summary by emission category (2006 to 2017)

Categories	Base year: 2006	2007	2008	2009	2010	2011	2012
Effluent treatment (industrial + domestic)	58,761	28,966	222	187	509	1,383	5,012
Power consumption	1,188	1,013	2,480	1,400	2,432	1,520	665
Fuel consumption	9,282	7,811	4,589	5,700	4,062	4,480	4,856
Outsourced fleet	4,647	5,742	5,945	6,927	9,246	10,361	9,882
Reagent consumption	2,289	3,275	174	199	453	857	756
Solid waste treatment (industrial landfill)	1,518	2,504	3,456	4,760	5,799	6,282	6,830
Treatment of solid waste (private landfill)	0	0	0	0	69	53	28
Total	77,685	49,311	16,866	19,173	22,570	24,936	28,058

⁽³⁰⁵⁻⁵⁾ Summary by emission category (2013 to 2017)

Categories	Base year: 2006	2014	2015	2016	2017	% (2006 – 2017)	% (2013 – 2017)
Effluent treatment (industrial + domestic)	14,391	31,135	15,323	24,244	790	-98.66 %	-94.51 %
Power consumption	7,279	12,172	12,959	13,723	10,167	755.83 %	39.69 %
Fuel consumption	49,162	63,241	65,433	56,319	42,034	352.85 %	-14.50 %
Outsourced fleet	11,302	10,884	12,523	12,312	12,763	174.64 %	12.92 %
Reagent consumption	2,044	2,060	1,880	1,137	1,238	-45.90 %	-39.43 %
Solid waste treatment (industrial landfill)	6,917	6,947	7,371	6,176	6,626	336.52 %	-4.20 %
Treatment of solid waste (private landfill)	363	145	196	148	163	0.00 %	-55.09 %
Total	91,458	126,584	115,685	114,060	73,782	-5.02 %	-19.33 %

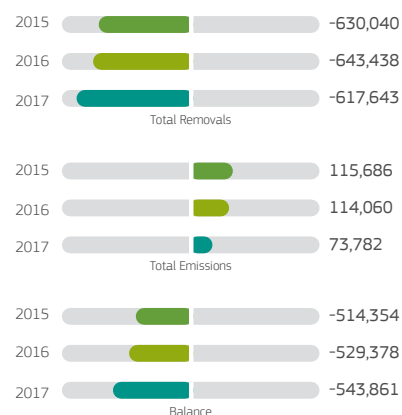
(305-5) Analysis of causes for the observed change in emissions

Activities	Causes
Effluent treatment	The Resin Unit RS - Balneário Pinhal unit ceased to perform physical-chemical treatment and release into the receiving body of its effluents. All the effluent generated is used in the irrigation of the Pinus plantation. In this way, there are no greenhouse gas emissions due to the treatment of effluents.
Power consumption	There was an increase in overall consumption in MW/h compared to 2016 due to the increase in production by the units. However, emissions were reduced, influenced by the average Grid factor and justified by the greater use of renewable energy in the country in 2017 due to higher rainfall levels and lower demand for the activation of thermoelectric plants.
Fuel consumption	There was a significant reduction influenced by the consumption of natural gas in the Paper Unit MG - Santa Luzia, where the consumption of natural gas calculation also was corrected, since in 2016, the demand was recorded in the utility bill; the actual consumption is correct.
Outsourced fleet	Small increase, mainly influenced by recording the transportation of waste by the Corrugated Cardboard Packaging Unit SP - Indaiatuba.
Reagent consumption	Increase in consumption justified by higher production in the Paper SC - Campina da Alegria and Corrugated Cardboard Packaging SP - Indaiatuba units.
Solid waste treatment (industrial landfill)	Small increase compared to 2016, but waste emissions remained very close compared to the previous year. This increase was mainly caused by the FS plastic residue.
Treatment of solid waste (private landfill)	Small increase in CO ₂ due to increased generation of Class I waste, especially bricks from the Broby oven.

(305-5) Emission by category

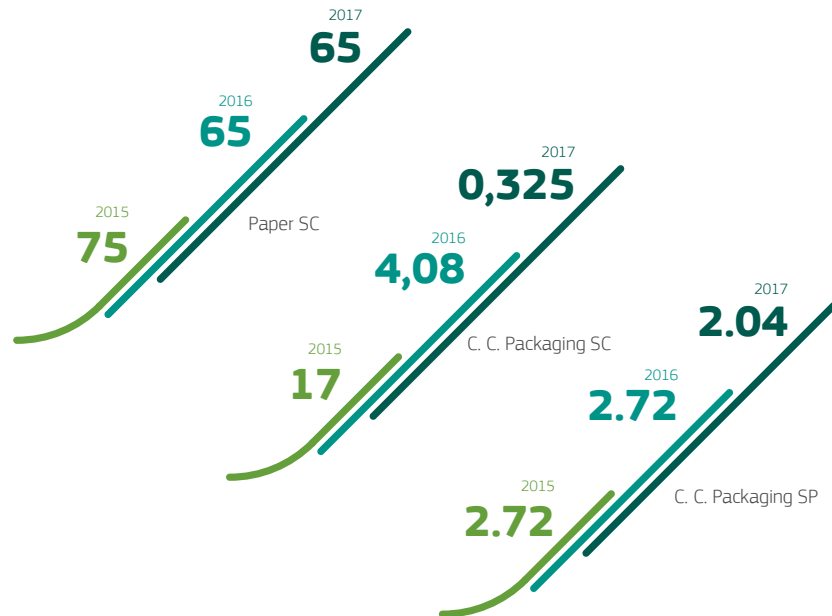
Emission category	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	% 2006 - 2017	% 2013 - 2017
Scope 1	71,850	42,557	8,441	10,846	10,823	13,003	17,454	72,515	103,383	90,007	87,876	50,689	-29.45 %	-30.10 %
Scope 2	1,188	1,013	2,480	1,400	2,432	1,520	695	7,279	12,172	12,959	13,723	10,167	755.83 %	39.69 %
Scope 3	4,647	5,741	5,945	6,927	9,315	10,414	9,910	11,665	11,029	12,719	12,461	12,926	178.15 %	10.81 %
Total	77,685	49,311	16,866	19,173	22,570	24,936	28,058	91,584	126,584	115,686	114,060	73,782	-5.02%	-19.33%

Balance sheet: Emissions vs. Removals



Note: Between 2016 and 2017, the Resin Unit RS - Balneário Pinhal reduced emissions by 99.2% through an initiative to lower effluent generation, by not discharging it into a water body and, rather, diverting it for irrigation of Pinus plantations in its Rio Grande do Sul areas. In the Paper Unit SC - Campina da Alegria, the reduction was 2.62% in relation to 2016, mainly affected by the consumption of electricity.

(305-6) Emissions of substance that destroy the ozone layer



Note: The calculation can be made directly. Both the CML-IA and the ReCiPe methods use the equivalent CFC-11 substance with an ozone depletion impact indicator. The two methods present the characterization factor as 0.05 kg of CFC-11 eq for each kg of HCFC-22. We have not adopted the formula indicated by the GRI because we do not produce, import or export ozone layer depleting substances. The data presented refer to emissions from the use of air-conditioning refrigeration gas.

(305-7) Atmospheric emissions (tons/year)

Units	Nitrogen Oxide	Sulphur Oxides (SOx)	Hydrogen sulfide	Reduced total sulfur
Paper SC - Campina da Alegria	665.54	270.89	0.03	229.72
C. C. Packaging SC - Campina da Alegria	2.37	-	-	-
Resin RS - Balneário Pinhal	-	0.13	-	-
C. C. Packaging SP - Indaiatuba	10.64	-	-	-
C. C. Packaging SP - Vila Maria	1.75	-	-	-
Paper MG - Santa Luzia	15.67	-	-	-
Total	695.97	271.02	0.03	229.72

Note: The Company does not have POP and VOC emissions.

Respect for local biodiversity

^(DMA) Our productive processes have an intimate relationship with natural resources. The balance in this interaction is a strategy that aims at business continuity.

Santa Catarina

In Santa Catarina, about 47% of our forests are destined for conservation and the proposal to create a Private Natural Heritage Reserve (RPPN) in the community of Campina da Alegria, in Vargem Bonita (SC), with 285 hectares. In honor of one of the main educators from this locality, it was named after Prof. Yara C. Nicoletti and will earmark actions involving environmental education, scientific research and an ecological trail of great importance due to the presence of water, riparian forest stands, endangered plant species and the local fauna.

In 2017, we conducted nine guided tours on this trail for elementary and middle school students from the region.

Target 2018

Conduct at least seven guided tours on the Xaxins Trail, in the Profª Yara C. Nicoletti RPPN, with five for the schools in the municipalities where we have forest areas and two open to the general public.

Also in 2018, we will become involved in the projects developed by the SC Rural Program in the region of the Chapecó-Timbó Ecological Corridor, under the guidance of the Santa Catarina Environment Institute (IMA).

⁽³⁰⁴⁻¹⁾ Part of our land in Santa Catarina is located in or adjacent to the Araucarias National Park (ParNa), a federal conservation unit created by a decree in 2005. We have representation on the Advisory Board, participating directly in the discussions regarding execution of the ParNa management plan, on working groups to meet specific demands, public use of the area and support of the activities carried out in the park.

The verification of conservation attributes in our forest areas was conducted in accordance with the ProForest Guide and the FSC® Principles, based on expert study and public consultation with our stakeholders. The result of this evaluation defined two areas with high conservation value attributes, totaling 3,150 hectares.

(304-3)

High Conservation Value Areas (HCVAs)	Area (in hectares)	HCV Type	Evaluation outcome
Campina da Alegria	1,441.34	1,2 e 3	<ul style="list-style-type: none"> • Presence of endangered species of birds, mammals, and flora in high threat categories; • Remaining stretches in a good state of conservation;
Irani	1,708.66		<ul style="list-style-type: none"> • Large remnants (over 1,000 hectares), compared to the extremely fragmented region; • Reserved and Preserved Legal Reservation Area.
Total	3,150.00		

Note: High Conservation Value Areas

Protection and Monitoring Measures

HCUA	Environmental education	Natural asset surveillance (monitoring with IBotons)	Mastofauna survey	Avifauna survey	Herpetofauna survey	Flora survey	Invasive alien species control	Maintenance of firebreaks	Roadway erosion control	Private conservation unit creation initiative	Environmental Impact Assessment
Campina da Alegria	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Irani		✓	✓	✓	✓	✓		✓	✓		✓

(304-1) More information on HCV areas and the status of each, as well as partnerships for protection and restoration, are available in the public summary on forest management, which is available at: <http://www.irani.com.br/en/irani/bussines-area/forestry/>.

(304-3) Seven years ago, following the planting of exotic species in permanent preservation areas, we signed a Term of Conduct Adjustment (TCA). In 2018, we will finalize a harvesting schedule that respects the stipulations within the TCA and we will extend the monitoring of this area until 2019 to guarantee its environmental recovery.

(304-4) Our last flora survey, carried out in 2016, registered the presence of 44 families and 120 species on our lands. The richest family is myrtle with 26 species, followed by sunflower family varieties (6), laurel (6) and bean family varieties (5). Of the species listed, some are threatened with extinction, such as:

Scientific name	Common name	Threat assessment
<i>Araucaria angustifolia</i> (Bertol.) O. Kuntze	Candelabra tree, Parana pine	*CR, **EN
<i>Butia eriopatha</i> (Mart. ex Drude) Becc.	Woolly jelly palm	*VU**VU
<i>Cedrela fissilis</i> Vell.	Cedar	**VU
<i>Dicksonia sellowiana</i> Hook.	Xaxim, imperial samambaiaçu	*CR, **EN
<i>Ocotea porosa</i> (Nees & Mart.) Barroso	Brazilian walnut, imbuia	*CR, **EN
<i>Podocarpus lambertii</i> Kl.	South American podocarpus	*NT
<i>Quillaja brasiliensis</i> (A.St.-Hil. & Tul.) Mart.	Quillaja	*EN

* The IUCN Red List of Threatened Species, Version 2016-3 (International Union for Conservation of Nature and Natural Resources).

** Brazilian Ministry of the Environment (MMA) Ordinance Nº 443, 17 December 2014. CR = critically endangered; NT = near threatened; EN = endangered; VU = vulnerable.

The mastofauna mapping that was carried out in 2015 registered occurrence of 31 species distributed in eight orders. Of this total, eight appear on endangered species lists.

Order	Species	Common name	Threat assessment
Primates	<i>Alouatta guariba clamitans</i>	Southern brown howler	VU (BR, SC)
Carnivorans	<i>Leopardus pardalis</i>	Ocelot	VU (BR), EN (SC)
Carnivorans	<i>Puma concolor</i>	Puma	VU (BR, SC)
Carnivorans	<i>Jaguarundi</i>	Eyra	VU (BR)
Even-toed ungulates	<i>Mazama americana</i>	Red brocket	EN (SC)
Even-toed ungulates	<i>Pecari tajacu</i>	Collared peccary or Musk hog	VU (SC)
Even-toed ungulates	<i>Tayassu pecari</i>	White-lipped peccary	VU (BR), CR (SC)
Rodents	<i>Cuniculus paca</i>	Lowland or Spotted paca	VU (SC)

* MMA Ordinance Nº 444, of 17 December 2014 ** Santa Catarina State Department on the Environment (CONSEMA) Nº 002, of 06 December 2011. VU = Vulnerable; CR = Critically Endangered; EN = Endangered

The avifauna found in the region is basically forest, with representative species dependent on preserved environments (forests) and other occupants of bush lands and woodland edges, therefore less susceptible to environmental changes. The surveys we conducted up through 2015 were focused on determining which species are occupying the forest area, identifying rare and/or endangered species, and developing a continuous monitoring plan for the maintenance of biodiversity.

Our surveys recorded the existence of 168 species with an emphasis on taxons that are highly dependent upon environmental quality, such as the: Mantled-hawk (*Leucopternis polionotus*), King vulture (*Sarcorampus papa*) and the Pileated or Red-capped parrot (*Pionopsitta pileata*), and/or micro-specific habitats, such as the: Rufous-tailed or Brazilian antthrush (*Chamaeza ruficauda*), Black-bellied seedeater (*Sporophila melanogaster*), Speckle-breasted antpitta (*Hylopezus nattereri*), and the Blackish-blue seedeaters (*Cyanoloxia moesta*).

Taxon/Scientific Name	Common Name	Threat assessment
<i>Tinamus solitarius</i>	Solitary tinamou	**VU
<i>Triclaria malachitacea</i>	Blue-bellied or Purple-bellied parrot	** VU
<i>Pyroderus scutatus</i>	Red-ruffed fruitcrow	** EN
<i>Sporophila melanogaster</i>	Black-bellied seedeater	* VU, ** VU

* MMA Ordinance Nº 444, of 17 December 2014.** Santa Catarina State Department on the Environment (CONSEMA) Nº 002, of 06 December 2011. VU = Vulnerable; EN = Endangered

In 2016, we conducted an herpetofauna survey that registered 24 amphibian species, among which was a small glass frog, *Vitreorana uranoscopa*, that is under threat of extinction in the state of Santa Catarina; two other types of frogs, *Ischnocnema henselii* and *Trachycephalus dibernardoi*, whose distribution is restricted to the Araucaria moist forests. As regards reptiles, we evidenced the presence of nine species, among which were *Echinanthera cyanopleura* and *Chironius bicarinatus* (Two-headed sipo), both common to forest environments.

In partnership with researchers and government institutions, we also developed biodiversity studies in our forest areas. This included:



Monitoring of fauna and flora

In conjunction with external partners, this analysis is carried out every two years for fauna and every five years for flora. Our objective is to evidence the maintenance of those attributes that characterize high conservation value areas under our ownership. For example, within the Prof. Yara C. Nicoletti Private Natural Heritage Reserve, we identified the presence of a large number of small glass frogs (*Vitreorana uroscopana*), a bioindicator of highly conserved areas, which is on the endangered species list in the state of Santa Catarina.



Reintroduction of the Vinaceous-breasted Amazon parrot

For this initiative, we partnered with the Espaço Silvestre NGO, which is dedicated to the rehabilitation of wild fauna. They assisted us in reintroducing the Vinaceous-breasted Amazon parrot to the Araucarias National Park in the state of Santa Catarina.



Javali Ecology

We dedicated our areas infrastructures and technical teams to carry out this study, which was developed by Caipora, an NGO nature conservation cooperative, along with support from Embrapa Suínos e Aves (the swine and poultry division of the Brazilian Agricultural Research Company). The objective is to provide subsidies to improve sanitary control and management of wild boar populations in Santa Catarina.



Capuchin Monkey Project

Carried out in partnership with Embrapa Florestas (the forestry division of the Brazilian Agricultural Research Corporation), this was a study of the Black-horned Capuchin (*Sapajus nigritus*) and its interactions with our native and planted forests, as a means of reducing the damage caused by this species in our commercial plantations.

Rio Grande do Sul

Our planted forests, located along the Rio Grande do Sul coastline, form mosaics with permanent preservation areas (APPs) and other natural spaces, which favoring the conservation of local biodiversity.

⁽³⁰⁴⁻³⁾ We have 75 hectares in High Conservation Value Areas (HCVAs), which are located in the municipalities of Cidreira and São José do Norte. These areas contain native vegetation of great significance and regional representativity, identified according to the methodology elaborated by the UK Proforest NGO.

⁽³⁰⁴⁻²⁾ Within these HCVAs, we apply specific measures to ensure the maintenance and improvement of identified values. Monitoring activities are conducted to evaluate management effectiveness, with the purpose of strengthening conservation of these areas and perpetuating their benefits. Additionally, we have partnered with a project of the state of Rio Grande do Sul, RS BIODIVERSIDADE, through which a Rapid Ecological Assessment (REA) was carried out in one of the areas in 2015.

(304-3)

Principle threats to Conservation	Monitoring Activities	Protective Measures
Operational damage;	Monitoring of fauna and flora	Fencing of properties
Fires;	Monitoring of socio-environmental occurrences	Forest fire prevention and control program
Illegal activities (hunting, fishing, extraction of native wood, invasion of domestic animals, etc.);	Raising community awareness	Heritage property surveillance
Disturbances/roadkill		Micro-planning of forestry activities
		Removal of exotic species
		Visual identification

Other forest fragments of the Company, such as permanent preservation areas and legal reserves, also have management and monitoring measures in place to curb illegal activities and promote biodiversity conservation, such as heritage property surveillance, integrated forest production system, restoration activities, and operational care.

(304-4) Annual monitoring of fauna and flora is carried out to understand the environmental dynamics of our forest areas and the impacts of activities on the environment. So far, we have identified:

Group	Identified species	Threatened
Birds	98	-
Amphibians	36	-
Reptiles	35	1
Mammals	9	1
Flora	60	8

Social Responsibility

(DMA) We contribute to the development of surrounding communities and strengthen the value chain through sustainable initiatives that promote the generation of shared value.

We consider surrounding communities to be those municipalities where we have offices and industrial units, and where most of our employees live. This criterion has helped us define investment and relationship priorities and are considered when analyzing new partnerships or social activities.



	Priority Attention	Prompt Attention
Santa Catarina	Irani, Ponte Serrada, Vargem Bonita, and Joaçaba	Catanduvas, Concórdia, and Herval d'Oeste
São Paulo	Indaiatuba, Salto, Guarulhos, and São Paulo (limited to the area surrounding Vila Maria)	Itaquaquecetuba
Rio Grande do Sul	Porto Alegre, Balneário Pinhal, and Cidreira	São José do Norte
Minas Gerais	Santa Luzia	-

⁽⁴¹³⁻¹⁾ All of Irani's operations have development programs in their local communities, whose goal is the development of children and youth on fronts such as education, the environment, citizenship and sports. Examples include:

- **Outstanding Student Project** recognizes the five best students from the Galeazzo Paganelli Elementary School, Campina da Alegria, Vargem Bonita in Santa Catarina, by offering them exclusive pedagogical guidance and a monthly scholarship, with the objective of preparing them for the National High School Examination (ENEM) and vestibular (college entrance exams). Throughout the year, meetings are held with volunteer professionals from Irani, according to the areas of interest of the participating students.
- **Broto do Galho:** the objective of the project is to promote sustainable development in the Campina da Alegria community through a hub for the production of handicraft products made from industrial waste, which stimulates social integration and generates extra income for the participants.
- **Partnership with Junior Achievement:** encourages corporate volunteering by training Company employees to implement programs focused on practical education in economics and business in both public and private schools. The partnership takes place in all states in which Irani operates.
- **Social Projects Support Fund:** In partnership with the Guga Kuerten Institute, we create opportunities for social transformation by financially supporting NGO projects in the communities that surround Irani's facilities, with particular attention on the development of initiatives that provide care for people with disabilities.
- **Partnership with the Joaçabense Volleyball Association (AJOV):** through sports practices, this program encourages citizenship among school age youth residing in the communities of Joaçaba, Vargem Bonita, and Campina da Alegria.
- **Sports Programs in Partnership with Industrial Social Services (SESI):** fostering citizenship through sports and addressing related themes, such as mutual respect and teamwork. Through this initiative, we have benefited an average of approximately 1,340 young people in Indaiatuba, São Paulo and Santa Luzia, Minas Gerais.
- 144 employees involved in volunteering, which represents a total commitment of over 840 hours

To ensure our social license to operate, assessments of social issues related to our business, as well as the management of projects of this nature and satisfying the demands of our neighboring communities.

Social investments (in thousands of R\$)

	2015	2016	2017
Direct Investments	284	199	314
Rouanet Law*	100	0	0
Cultural Action Program	135	98	0
One-Off Donations	23	28	41
Total	542	325	355

* Brazilian federal law that allows individual and corporate taxpayers to make donations or provide sponsorships to cultural projects in exchange for a tax exemption proportional to the incentive.

⁽⁴¹³⁻²⁾ Neighbors in our forest areas receive communications prior to the start of our operations and enjoy the infrastructure improvements we make to the roads that we are responsible to maintain. These stakeholders are also consulted as part of our socio-environmental impact assessments. In 2017, all surrounding communities formally received our Public Summary on Forest Management and informational materials on forest fire prevention and control. Environmental education activities are also offered in these locations.

⁽⁴¹³⁻¹⁾ As a result of our strategic planning for the 2018-2027 cycle, in 2018, we will conduct a reappraisal of our surrounding communities, with an aim toward keeping our attention and relationship prioritization criteria up-to-date. ⁽¹⁰²⁻⁴³⁾ We will also be carrying out new cycles of assessment of socio-environmental aspects and impacts in the communities neighboring the Company's forestry and industrial operations in the state of Santa Catarina, as well as a preliminary study for this practice in the state of Rio Grande do Sul. The results of these evaluations will guide our 2019 plans for the application of private social investment resources and the management of our relationship with surrounding communities.

¹⁰²⁻¹³⁾ Ongoing communications with government leaders and social entities



representative of society is carried out through our leadership, which sits on councils and boards, and/or by assisting with projects and activities developed by the following organizations:

- Association of Parents and Friends of the Challenged Youths (APAE) from the municipalities of Joaçaba, Vargem Bonita, and Concordia, in Santa Catarina
- Brazilian Association of Publicly-Held Companies (ABRASCA)
- Brazilian Corrugated Cardboard Association (ABPO)
- Brazilian Pulp and Paper Technical Association (ABTCP)
- Catarinense Association of Forest Enterprises (ACR)
- Commercial and Industrial Association of Western Santa Catarina (ACIOC)
- Brazilian Resiners Association (ARESB)
- Business Association of Santa Luzia (AESL)
- Rio Grande do Sul Association of Forest Companies (AGEFLOR)
- Rio Grande do Sul Quality Association/PGQP
- Center of Industries of Rio Grande do Sul (CIERGS)

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- State Department of the Environment (CONSEMA)
 - Federation of Commercial and Service Associations of Rio Grande do Sul (FEDERASUL)
 - Federation of Industries of the State of Santa Catarina (FIESC)
 - Technological Foundation Center for Industrial Production (CETEPi)
 - Brazilian Tree Industry Association (IBÁ)
 - Brazilian Institute of Engineering Assessments and Expertise (IBAPE)
 - Santa Catarina Movement for Excellence - SC Excellence
 - Brazilian Bar Association of Santa Catarina (OAB-SC)
 - Santa Catarina Secretariat for Sustainable Development (SDS)
 - The Cabinetmaking, Sawmill, Carpentry, and Cooperage Industries Syndicate of Caxias do Sul (SINDIMADEIRA RS)
 - Cardboard Industry Association of the State of São Paulo (SINPESP)
 - Pulp and Paper Industries Association of the State of Santa Catarina (SINPESC)
 - Pulp, Paper, and Cardboard Industries Association of the State of Minas Gerais (SINPAPEL)
 - Paper, Cardboard, and Cork Industries Association of the State of Rio Grande do Sul (SINPASUL)
 - Paper and Cardboard Industry Workers' Union of Santa Luzia (SINTIPEL)
 - Paper, Cardboard, and Cork Industries Workers' Union of São Paulo, ABCDM, Osasco, Taboão da Serra, and Region (SINTRAPEL)
 - Paper, Cardboard, and Cork Artifacts Industries Workers' Union of Joaçaba and Region (SITIAPAPEL)
 - Young Presidents' Organization (YPO)



expanded
interface

Production Chain

To embrace the future is to search for excellence throughout the entire production chain extended to our relationship with our clients.

Enhanced interface with our suppliers

^(DMA) Building value relationships is our mission – and that extends to suppliers and service providers. We choose ethical and transparent partners, and promote the evolution of quality practices and socio-environmental responsibility.

⁽¹⁰²⁻⁹⁾ Since 2010, we have categorized our supply chain into five purchasing groups, which all comply with the requirements applicable to FSC® and ISO 9001 standards. Subsequently, we have expanded compliance to include ISO 14001 criteria. Through strict, rigorous adherence to these processes we are able to satisfy the needs of our Company. All contracting processes for suppliers and service providers comprise stages for specific identification, qualification, selection, and evaluation, which are designed according to the nature of these relationships, the criticality of the products and services obtained, and the impacts on our business.

⁽³⁰⁸⁻²⁾ The Supplier Performance Index (IDF) is applied to all purchasing groups with the objective of contributing to the continuous development of our suppliers and service providers, assessing issues related to the quality of the products and services offered, applying technical specifications, and gauging the efficacy of communications and business relationships.

Following global consolidation of these results, the evaluation is shared, thereby allowing us to verify the details of critical points. In 2017, we evaluated 729 suppliers; in 2016, 695; in 2015, 734. According to the index position on the Irani scale, the following applies:

- Below 60 points: Business relationship blocked/suspended. To move forward, an action plan must be presented, which indicates how issues requiring improvement will be addressed. This must be approved by the Supply and/or Forestry Manager.
- Between 60 and 80: A Non-Conformity Form (FNC) is prepared and sent to the supplier. Within thirty (30) days, the supplier must present a plan of action to address issues requiring improvement. Based on the services provided or products offered, the presented plan will be subject to semiannual or annual evaluations.
- Above 80 points: Automatically qualified supplier.



Prestadores de Serviços Críticos

Em sua maioria, fornecimento de energia e serviços.

Origem:

SP, SC, PR, RS, CE, MG, DF, RJ, MS, ES e PE e exterior

Componentes:

2017: 1.036
2016: 96
2015: 1.083

Investimento em Compras:

2017: 79 milhões, 12% do total
2016: 72 milhões, 13% do total
2015: 73 milhões, 12% do total

Critérios Predominantes de Avaliação:

Qualidade na execução da prestação do serviço; gerenciamento de resíduos.

IDF:

2015: 91,44
2016: 91,93
2017: 92,61

These include service providers, project contractors, or hourly contractors who work on the Company's premises and whose contributions may directly impact the quality of our products (e.g., forestry services, machinery and equipment maintenance). In this regard, we seek long-term partnerships that provide benefits for all parties.

Our negotiators are responsible for the interface between a given requesting area and the service providers, and rely on Specialized Service in Safety Engineering and Occupational Medicine (SESMT) teams to assess applicable health and safety requirements.

The components of this group are evaluated by the negotiator and the requesting area, which includes factors related to legal compliance, quality, capacity, innovation, and environmental concerns (including waste disposal), as well as commercial relationships. The consolidation of these factors generates the Supplier Performance Index (IDF), which is compiled annually.



Produtos Críticos e Químicos

Em sua maioria, químicos e insumos.

Origem:

SP, SC, PR, RS, MG, RJ e RN

Componentes:

2017: 179

2016: 140

2015: 157

Investimento em Compras:

2017: 71 milhões, 11% do total

2016: 71 milhões, 11% do total

2015: 70 milhões, 12% do total

Critérios Predominantes de Avaliação:

Qualidade, atendimento da especificação técnica e garantia de fornecimento.

IDF:

2015: 98,81

2016: 94,56

2017: 94,57

This group is composed of suppliers of raw materials and inputs that directly impact the quality of the final products (e.g., starch and tubelets for the Paper division, glue and stretch film for packaging, and perlite for the Resin division). Given their criticality, our teams organize periodic purchasing schedules.

For the purpose of qualifying this group, we annually apply the Supplier Assessment Questionnaire (QAF), an instrument that seeks to assess the ability of critical and chemical products suppliers to satisfy quality and socio-environmental requirements set forth in ISO 9001, ISO 14001, ISO 22000, and SA 8000 standards. To gather evidence, our negotiators may request on-site verification.

- In 2017, eleven (11) visits were made to chemicals suppliers.
- 100% of the suppliers included in this group were selected based on social criteria included in the Supplier Assessment Questionnaire (QAF).

This group also undergoes an evaluation carried out by the negotiator and the warehouse that includes factors related to legal compliance, quality, capacity, innovation, and environmental concerns, as well as commercial relationships. The consolidation of these factors generates the Supplier Performance Index (IDF), which is compiled annually.



Serviços de Transporte/Logística para Expedição

Em sua maioria, serviços de logística.

Origem:

SP, SC, PR, RS, MG, RJ, MS e GO

Componentes:

2017: 44

2016: 58

2015: 62

Investimento em Compras:

2017: 49 milhões, 7% do total

2016: 48 milhões, 8% do total

2015: 50 milhões, 9% do total

Critérios Predominantes de Avaliação:

Atendimento da programação de expedição.

IDF:

2015: 91,29

2016: 92,60

2017: 92,22

This encompasses companies contracted to transport our finished products.

Before we enter into partnership agreements, service providers of this nature undergo a qualification process that includes a detailed look at aspects of legal compliance. In addition, when a new provider is developed, we also apply a questionnaire that seeks to assess the adequacy of a given supplier's fleet to satisfy Irani's needs, including the ability to cover its service radius.

We leverage these partnerships to optimize our reverse logistics processes. Whenever possible, carriers that make this type of delivery return to our units transporting corrugated cardboard.

Evaluation of this group includes criteria such as adherence to schedules, quality of services provided, response time and tracking, as well as environmental criteria related to leaks and atmospheric emissions. The latter is approved by the Despoluir (Clear the Air) Program in Santa Catarina and through an opacity report prepared in São Paulo.

The group also undergoes an evaluation carried out by the negotiator and the requesting area that includes factors related to legal compliance, quality, capacity, innovation, and environmental concerns, as well as commercial relationships. The consolidation of these factors generates the Supplier Performance Index (IDF), which is compiled annually.



Produtos FSC® e Florestais

Em sua maioria, fornecedores de aparas, florestal, resina, papel e celulose.

Origem:

SP, SC, PR, RS, MG, DF, RJ, MS, ES, GO e exterior

Componentes:

2017: 332
2016: 339
2015: 372

Investimento em Compras:

2017: 254 milhões, 39% do total
2016: 238 milhões, 38% do total
2015: 206 milhões, 35% do total

Crítérios Predominantes de Avaliação:

Qualidade, atendimento da especificação técnica do produto, garantia de fornecimento, atendimento de especificação

IDF:

2015: 92,35
2016: 92,81
2017: 92,07

This group includes suppliers of raw materials that are used to produce finished products certified by FSC®, such as chips, pulp, paper and wood, biomass and firewood for biomass.

Suppliers are selected after consultation procedures to determine legal compliance and attendance to specificities flagged by our teams. Starting in 2017, on-site visits were expanded in scope, encompassing, not only forest suppliers, but suppliers of wood chips and gum-resin.

Suppliers of gum-resin are invited to an annual meeting during which we discuss topics related to our production processes and the market, the Company's results, and environmental issues such as best practices and licensing.

For the purpose of qualifying the Pulp and Paper suppliers that comprise this group, we annually apply the Supplier Assessment Questionnaire (QAF), an instrument that seeks to assess the ability of critical and chemical products suppliers to satisfy quality and socio-environmental requirements set forth in our Wood Purchasing Policy, which conforms with ISO 9001, ISO 14001, ISO 22000, and SA 8000 standards. Our negotiators may request on-site visits to gather evidence.

Our negotiators also conduct visits to suppliers of wood chips and gum-resin to apply valuations that include items related to legal compliance and business relationships. In 2017, fulfilling the commitment made in the prior report, six formal visits were made to suppliers of resin gum.

The group also undergoes an evaluation carried out by the negotiator and the requesting area that includes factors related to legal compliance, quality, capacity, innovation, and environmental concerns, as well as commercial relationships. The consolidation of these factors generates the Supplier Performance Index (IDF), which is compiled annually.



Uso e Consumo e Serviços Externos Críticos

Em sua maioria, matérias de uso e consumo.

Origem:

SP, SC, PR, RS, CE, RJ, MS, ES, PE, BA e TO e exterior

Componentes:

2017: 1.557
2016: 1.537
2015: 250

Investimento em Compras:

2017: 79 milhões, 12% do total
2016: 82 milhões, 13% do total
2015: 62 milhões, 9% do total

Crítérios Predominantes de Avaliação:

Devolução de mercadorias

IDF:

2015: 87,96
2016: 86,63
2017: 88,97

This comprises suppliers of use and consumption products applied in production processes, such as bearings, belts, knives, and forms, and the service providers that carry out related work outside the Company's premises, which have a direct impact on our processes, such as plates and motor grinding.

Contacts with suppliers of use and consumption products takes place through Irani Online, a portal integrated with the Company's ERP system, whose aim is to offer greater agility in the quotation processes. The qualification of this group includes verification of legal compliance by suppliers followed by an analysis and the development of a roadmap for approval of the designated brands.

Business issues are evaluated by our negotiators and the service user is a key figure in defining hiring, evaluating technical aspects, and recommending brands.

An evaluation is also applied to this purchasing group, which includes verification of legal compliance, analysis of the requesting area in relation to quality, technical capacity, innovation, environmental aspects of the service provider, and an analysis of the supply area in relation to the established commercial relationship. The consolidation of these factors generates the Supplier Performance Index (IDF), which is compiled annually.

Through the Urban Forest Project we seek to prioritize the purchase of wood chips from stable partner suppliers with a view toward achieving 80% of these negotiations under contract.

(308-1, 414-1, 408-1, 409-1, 308-2, 414-2) Shared Commitments

To ensure proper legal compliance and appropriate working conditions with our partners, our contracts include mandatory clauses related to socio-environmental and human rights aspects. The signed documents are taken as self-declarations of commitment to these themes, including the lack of slave and/or child labor in their operations.

⁽¹⁰²⁻¹²⁾ We are signatories to relevant external initiatives, such as the U.N. Global Compact and the Brazilian Business Pact for Integrity and Against Corruption, which reinforce our commitment to ethics and human rights. Adherence to the FSC®, ISO 14001, and adoption of the Management Excellence Model® (MEG) has raised the level of our practices with regard to socio-environmental aspects, which are linked to evaluations of suppliers and service providers. Risk management and purchasing controls, as well as contract and warehouse processes follow an internally developed methodology.

⁽³⁰⁸⁻¹⁾ In the corrugated containerboard packaging units, 29 suppliers were identified and evaluated. In addition, we also evaluated service providers considered critical for the environment, totaling 48 for the three corrugated containerboard packaging units. This evaluation was based on compulsory licensing. In 2017, no vendor was disqualified.

Actual Suppliers	Significant Environmental Impacts
Chemical Suppliers	Greenhouse Gas Generation Updated environmental licenses Natural resource consumption Waste generation
Pallet Purchasing	Greenhouse gas generation Updated environmental licenses Natural resource consumption

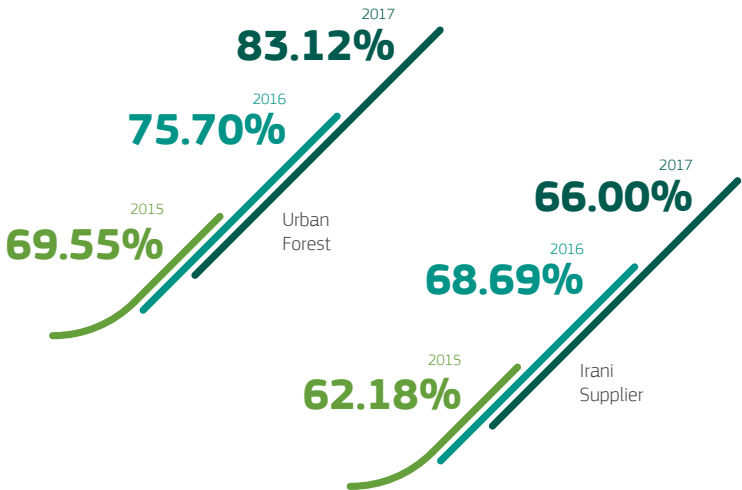
Since 2017, a practice has been developed to support the Supplies division by establishing a system for the approval and control of documents related to new suppliers and service providers whose activities may impact the environment. Implementation of this practice is planned for 2018.

Also in 2017, we expanded the scope of our Wood Chip Policy to the MG Paper Unit, fulfilling the commitment we made in our previous report. Our practice of encouraging reverse logistics for the reprocessing of our customers' corrugated cardboard was continued. The volume recorded for the period (6,030.77 tons) was higher than the target set for the period.

Goal 2018

Maintain the volume of wood chip purchases above 6,000 tons.

Due to the demand for investments in our units, the indices of the Irani Supplier Project and local purchases decreased compared to the previous year.



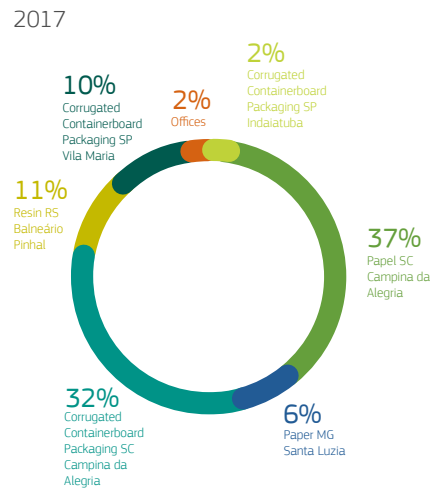
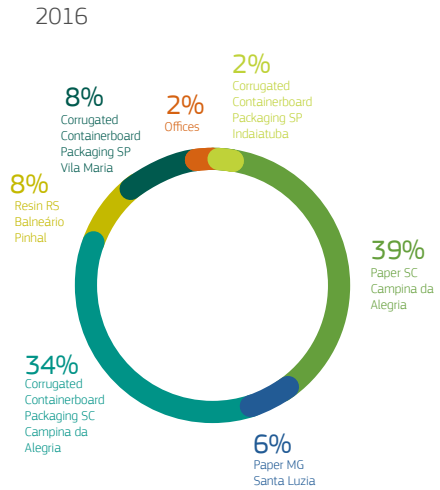
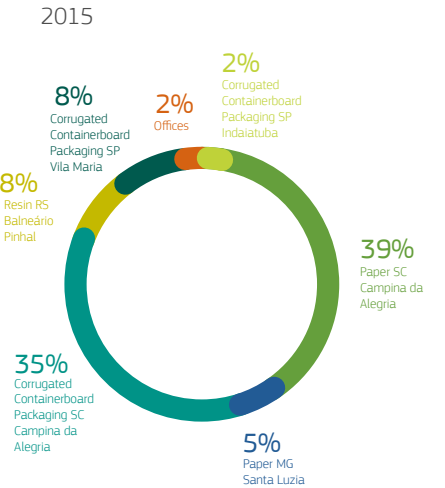
	2015	2016	2017
Total purchases from local suppliers (RS '000)	127,456	127,615	124,608
Percentage of total purchases made by the Company	22.15 %	20.11 %	18.90 %

Whenever possible, purchases and contracting services from the communities surrounding our units are prioritized, stimulating local economic development and building partnerships with regional suppliers.

Consolidated average of service providers



Consolidated average of service providers



Our Paper and Corrugated Containerboard Packaging SP units teams have third-party management practices that mitigate risks in service contracting operations. For this, a procedure applies that involves issues related to internal norms, health and safety standards, environmental concerns, and documentation required by law. In 2017, this practice was extended to the Corrugated Containerboard Packaging Unit SP - Vila Maria and, since the beginning of 2018, it has been applied to the Corrugated Containerboard Packaging Unit SP - Indaiatuba and Paper Unit MG - Santa Luzia units.

Extended interface with our customers

^(DMA) Our way of working is simple, transparent and customer-focused. The challenge lies in understanding how to achieve this consistently. We stand shoulder-to-shoulder with our customers, observing the same scenario and, with our knowledge and experience, we propose solutions that aim to reduce costs and establish operational improvements.

This has everything to do with research, development and innovation of processes, products, management models, and business. That's why our Innovation and Continuous Improvement, Research and Development, and Technical Assistance teams act as facilitators, assisting employees and customers in all processes to better manage ideas and product development.

Our relationships with customers are not limited to the supply of products. We offer free training, share our best practices and build value relationships for ourselves and our partners. This creates prosperous relationships. This is our essence. This is what inspires, engages, and leads us forward.

End-to-End Management

Continuous improvement of the value chain
Simplicity, agility and transparency
Customer focus

Customer-integrated expertise

Guaranteed supply
Customer service through understanding customer need
Economic innovation

Cultivate opportunities

Business success through the power of a united team
Power of creativity
Positive climate that motivates and engages

Optimism in action

Sustainable practices
Transformative ideas
Contribute to community development

⁽¹⁰²⁻⁶⁾ The result of this attitude is reflected in our client satisfaction surveys.

Paper Business



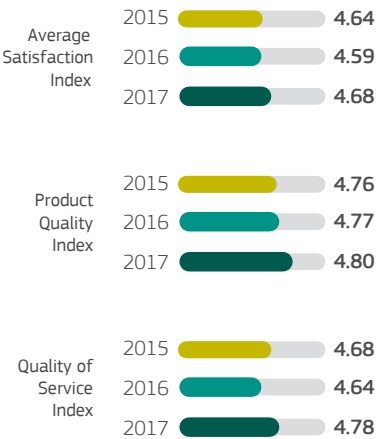
Main customers

Food segment, light and heavy sacks, bags, among others.



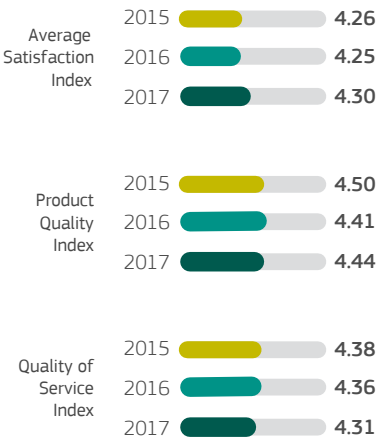
Domestic market

São Paulo, Santa Catarina, Paraná, Minas Gerais, Rio Grande do Sul, and Pernambuco.



Foreign market

Saudi Arabia, Argentina, South Africa, Chile, China, and Paraguay.



Corrugated Containerboard Packaging Business



Main customers

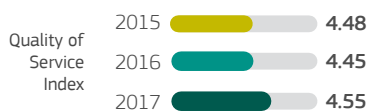
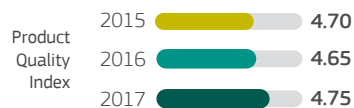
Cartons, meat industries, food industry, chemicals, plastics, and beverages.



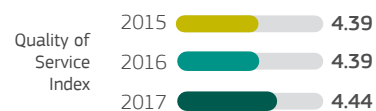
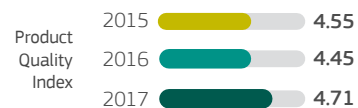
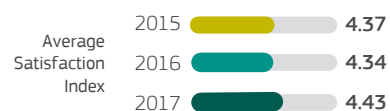
Domestic market

São Paulo, Santa Catarina, Minas Gerais, Rio Grande do Sul, Goiás, Espírito Santo, Rio de Janeiro, and Amazonas.

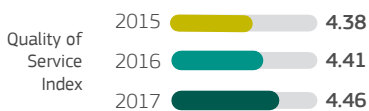
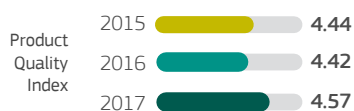
Corrugated Containerboard Packaging SP - Indaiatuba



Corrugated Containerboard Packaging SP - Vila Maria



Corrugated Containerboard Packaging SC – Campina da Alegria



Resin Business



Main customers

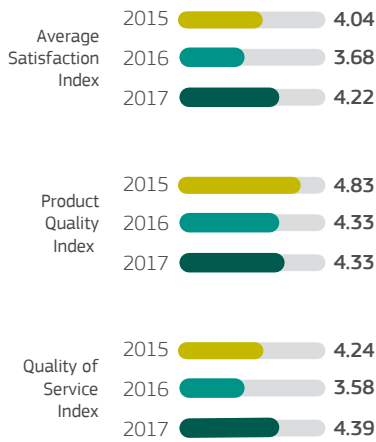
Gum-Rosin: producers of printing inks, adhesives for paper and linings, and wax for depilation.

Turpentine: producers of solvents for paints and varnishes, dyes, waxes, pine oil, camphor, soaps, insecticidal greases, sealants, and perfume fixatives.



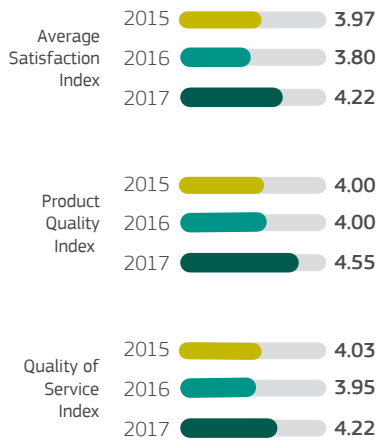
Domestic market

Rio Grande do Sul and Bahia.



Foreign market

Germany, France, China, The Netherlands, Japan, Portugal, Spain, India, Turkey, and Singapore.



About

(102-15) Evolution of commitments

Issue	Commitment	Status
Economic and business performance	Reduce our variable costs by R\$ 8.7 million	Goal Exceeded Achieved reduction of R\$ 11.5 million
	Maintain operating leverage (net debt/EBITDA) at less than 4.00 times	Goal Not Achieved Operating leverage was recorded at 4.44 times.
	The average term of the Company's debt must be at least 30 months	Goal Not Achieved The average term recorded in 2017 was 33.07 months.
Water	Reduce the amount of water consumed per gross ton produced to 19.56m ³ in the Paper Unit SC - Campina da Alegria	Goal Exceeded Results: 2017: 18.90 m ³ 2016: 19.56 m ³ 2015: 19.57 m ³
Waste	Maintain the shipment of landfill-destined waste at levels lower than 6.17% in the Paper Unit SC - Campina da Alegria	Goal Not Achieved Results: 2017: 6.93 % 2016: 6.17 % 2015: 9.85 %
Effluents	Limit the amount of effluents generated per gross ton produced to 18.23m ³ in the Paper Unit SC - Campina da Alegria	Goal Exceeded Results: 2017: 17.70 m ³ 2016: 18.41 m ³ 2015: 18.91 m ³
Energy	Maintain the standard for specific energy consumption per net ton produced at 0.79 MWh in the Paper Unit SC - Campina da Alegria	Goal Achieved Results: 2017: 0.79 MWh 2016: 0.79 MWh 2015: 0.80 MWh
Suppliers	Maintain at least 60% of long-term contracts with suppliers in the Irani Supplier Project and maintain the 80% index with wood chip suppliers via stable purchases (Urban Forest Project)	Goal Exceeded Irani Supplier: 2017: 66.00 % 2016: 68.69 % 2015: 62.18 % Urban Forest: 2017: 83.12 % 2016: 75.70 % 2015: 69.55 %
	Continue reverse logistics efforts regarding wood chips, with an anticipated return of 4,000 tons	Goal Exceeded Results: 6,030.77 tons of chips were reprocessed through this initiative.
Impact and protection of biodiversity	Carry out at least six guided tours for primary and secondary schools in the region of the ecological trail of the Prof. Yara C. Nicoletti Private Natural Heritage Reserve	Goal Achieved Six (6) tours took place.

The predominance of these commitments focused on the Paper Unit SC - Campina da Alegria. Their impact was considered relevant to the Company's results. The other units continue to work toward the maintenance and achievement of goals that respect the characteristics and particularities of those units.

About this report

^(102-45, 102-50) In Irani's 2017 Sustainability Report, we presented our challenges and results in the management of relevant sustainability issues for our business between January and December 2017. It encompassed our business units, Celulose Irani S.A. and the Habitasul Florestal SA, HGE – Geração de Energia Sustentável Ltda., IGE – Irani Geração de Energia Sustentável Ltda., and Iraflor Comércio de Madeiras Ltda subsidiaries.

^(102-31, 102-44, 103-1) In 2017, our Sustainability team conducted an internal initiative to review materiality. This work was inspired by the materiality review process carried out in 2014, which relied on support from external consultants, the Dom Cabral Foundation's "How To: Materiality Matrix" guide, and the guidelines set forth in the standards of the Global Reporting Initiative (GRI), all of which assisted us in our first effort to produce a comprehensive report.

⁽¹⁰²⁻²¹⁾ Our understanding of that which constituted the Company's relevant sustainability topics began with an evaluation of internal publications, such as our set of Corporate Policies, strategic intent and Code of Ethics, strategic map and the result of processes to define materiality, as well as assurance of the last report, which was published in April 2017.

^(102-42, 102-51) During our strategic planning review, an employee's group participated in the discussions on the themes of innovation and sustainability. The group contributed to the process by indicating which links in the value chain were most impacted by each material topic identified.

Numerous external resources have been consulted, including the U.N.'s Sustainable Development Goals, the 2016 Ibá Annual Report, Strategic Routes for Santa Catarina Industries 2022 - Cellulose & Paper, U.N. Global Compact and the Brazilian Business Pact for Integrity and Against Corruption, the Sustainable Development Index, and the materiality matrices of other companies.

⁽¹⁰²⁻⁴²⁾ To complement the themes that emerged from this consultation stage, interviews were conducted with customers, suppliers, service providers and government representatives. Stakeholders engaged in the definition of material themes, which were defined based on an analysis conducted by the Sustainability area.

The result of these consultations was incorporated into a matrix that prioritized the several themes. From this, we identified those that have become material and very material, which were then used to define the contents of this edition of the Sustainability Report. They guide us in understanding our impacts both inside and outside of our operations, direct our efforts to increase the breadth of positive impacts, and to mitigate negative impacts.

^(102-32, 102-46) The information contained in this report was compiled by the Company's functional areas, reviewed internally and by the Sustainability Committee established at the beginning of 2018, and approved by the Executive Board.

^(G4-33) BSD Consulting was responsible for the independent verification of non-financial information and the issuance of a guarantee statement. The verification of the consistency and integrity of our operations is audited independently, and results in the issuance, quarterly and annually, of an Independent Auditors' Report. Our financial statements, consolidated in accordance with International Financial Reporting Standards (IFRS) and practices adopted in Brazil, are audited by Deloitte Touche Tohmatsu.

(102-44, 102-47, 102-55) List of material topics

Material topic	Why was this identified as a material topic?	Links in the chain that achieve the highest impact for this topic (The higher the impact, the higher the color intensity)					Gri indicators related to the theme
		FOREST	SUPPLIERS	UNITS	CUSTOMERS	SOCIETY	
Environmental Responsibility	Dependence of Irani on natural resources, such as water and forests planted for productive processes.						102-9, 102-10 301-1, 301-2, 301-3 302-1, 302-2, 302-3, 302-4, 302-5 303-1, 303-2, 303-3 304-1, 304-2, 304-3, 304-4 305-1, 305-2, 305-3, 305-4, 305-5, 305-6, 305-7 306-1, 306-2, 306-3, 306-4, 306-5 308-1, 308-2
Prosperous Relationships	Building value and prosperous relationships is part of our mission.						102-12, 102-13, 102-40, 102-41, 102-42, 102-43, 102-44
Personnel Development	Development of high performance teams is the way to ensure excellence in processes, products, and services, and the achievement of our business strategy.						401-1, 401-2, 401-3 404-1, 404-2, 404-3
Customer Focus	Our challenge lies in understanding to how to satisfy customer expectations. We stand shoulder-to-shoulder with our customers, looking at the same scenario. Thus, with our knowledge and experience, we propose solutions aimed at reducing costs and producing operational improvements.						102-6, 416-1, 416-2
Excellence	Ensuring excellence, strengthening the culture of innovation, learning and producing continuous improvements in everything we do.						102-2, 102-3, 102-4, 102-15
Social Responsibility	Contribute to the development of our surrounding communities and strengthen the value chain through sustainable initiatives that promote the generation of shared value.						102-8 308-1, 308-2 405-1, 405-2 408-1, 408-2 414-1, 414-12

Health and Safety	Engagement of our leaders and our employees to ensure the health and safety of everyone.					403-1, 403-2, 403-3, 403-4
Admirable and Well-deserved Profits	We are not only an economic agent, we contribute to the prosperity of our stakeholders and to the promotion of social development. The recognition of this effort materializes in admirable and well-deserved profits.					201-1, 201-2, 201-3, 201-4
Governance	In the execution of our governance model and in all of our relationships, we are guided by transparency, ethics, and integrity					102-1, 102-16, 102-17, 102-18, 102-19, 102-20, 102-21, 102-22, 102-23, 102-24, 102-25, 102-26, 102-27, 102-28, 102-29, 102-30, 102-31, 102-32, 102-33, 102-34, 102-35, 102-36, 102-37, 102-38, 102-39

⁽¹⁰²⁻³²⁾ In 2017, we conducted interviews with members of the Board of Executive Officers to ascertain their perceptions about the content of the latest published report and their expectations for the current publication, reinforcing and validating the themes that guide our content, as well as opportunities for improvement.

(102-55) Summary of GRI Standards, “in compliance” content - Comprehensive

General Disclosures Organizational Profile

GRI Standard	Disclosure	Response/Where to find information	Omission
GRI 102: General disclosures 2016	102-1 Name of the organization	Celulose Irani S.A.	
	102-2 Activities, brands, products, and services	Strategic Direction	
	102-3 Location of the organization's headquarters	Rio Grande do Sul Office: Rua Gen. João Manoel, 157 9th Floor, Porto Alegre (RS) -Brazil CEP 90010-030	
	102-4 Location of operations	Strategic Direction	
	102-5 Nature of ownership and legal form	Strategic Direction	
	102-6 Markets served	Production Chain	
	102-7 Scale of the organization	Strategic Direction	
	102-8 Information on employees and other workers	People Strategy	
	102-9 Supply chain	Production Chain	
	102-10 Significant changes in the organization and its supply chain	Strategic Direction	
	102-11 Approach to the precautionary principle	Strategic Direction	
	102-12 External initiatives	Strategic Direction	
	102-13 Memberships in associations	Social-Environmental Responsibility	

Strategy

GRI Standard	Disclosure	Response/Where to find information	Omissions
GRI 102: General disclosures 2016	102-14 Message from the CEO	Strategic Direction	
	102-15 Main impacts, risks, and opportunities	Strategic Direction	

Ethics and integrity

GRI Standard	Disclosure	Response/Where to find information	Omissions
GRI 102: General disclosures 2016	102-16 Values, principles, standards, and behavioral norms	Strategic Direction	
	102-17 Counseling mechanisms and ethics concerns	Strategic Direction	

Governance

GRI Standard	Disclosure	Response/Where to find information	Omissions
GRI 102: General disclosures 2016	102-18 Governance structure	Strategic Direction	
	102-19 Delegation of authority	Strategic Direction	
	102-20 Executive-level functions, such as those who are responsible for economic, environmental, and social topics	Strategic Direction	
	102-21 Stakeholder consultation on economic, environmental, and social topics	About the report	We do not have a formalized consultation process between the stakeholders and the highest governance body.
	102-22 Composition of the highest governance body and its committees	Strategic Direction	The Executive Board is the only executive body. By mid-2018, women accounted for 20% of the structure of the Board of Directors. There are no representatives from minority groups on the Board of Directors. The Board of Directors is comprised of representatives of shareholders and Irani's controlling family group.
	102-23 Chairperson of the highest governance body	Strategic Direction	
	102-24 Selection and appointment to the highest governance body	Strategic Direction	Information on selection processes for the highest governance body is not available for this report.
	102-25 Conflicts of interest	Strategic Direction	
	102-26 Roles of the highest governance body in the configuration of purpose, values, and strategies	Strategic Direction	
	102-27 Collective knowledge of the highest governance body	Strategic Direction	
	102-28 Performance evaluation of the highest governance body	Strategic Direction	Information on performance evaluation processes for the highest governance body is not available.

102-29 Identification and management of economic, environmental, and social impacts	Strategic Direction	The Board of Executive Officers is responsible for monitoring and validating the discussions and definitions regarding risk management.
102-30 Effectiveness of risk management	Strategic Direction	The Board of Executive Officers is the body responsible for evaluating the effectiveness of risk management.
102-31 Review of economic, environmental, and social topics	Strategic Direction	
102-32 Role of the highest governance body in the sustainability report	About the report	
102-33 Critical concern communication	Strategic Direction	
102-34 Nature and total number of critical concerns	Strategic Direction	
102-35 Remuneration policies	Strategic Direction	
102-36 Procedure for determination of remuneration	People Strategy	
102-37 Involvement of stakeholders in remuneration	People Strategy	We do not currently hold stakeholder level consultations on our remuneration strategy.
102-38 Proportion of total annual remuneration	People Strategy	
102-39 Percent increase in the proportion of total annual remuneration	People Strategy	

Stakeholder engagement

GRI Standard	Disclosure	Response/ Where to find information	Omission
GRI 102: General disclosures 2016	102-40 List of stakeholder groups	Expanded energy	
	102-41 Collective bargaining agreements	Expanded view	
	102-42 Identification and selection of stakeholders	About the report	
	102-43 Approach to stakeholder engagement		The approach to this indicator is intrinsic throughout the description of how we manage each material subject.
	102-44 Main topics and concerns raised		Our leaders are responsible for managing the main topics and concerns of their direct relationship stakeholders.

Reporting practices

GRI Standard	Disclosure	Response/ Where to find information	Omission
GRI 102: General disclosures 2016	102-45 Entities included in the consolidated financial statements	About the report	
	102-46 Defining report content limits	About the report	The review of material topics did not involve the definition of boundaries. This aspect will be revised for content definition for the next Sustainability Report.
	102-47 List of material topics	About the report	
	102-48 Reformulations of information	None	
	102-49 Changes to the report	None	
	102-50 Reporting period for information provided	January 1 to December 31, 2017	
	102-51 Date of most recent report	April 2017	
	102-52 Release cycle	Annual	
	102-53 Point of contact for questions about the report	faleconosco@irani.com.br	
	102-54 GRI Standard Agreement Option	This report has been prepared in accordance with GRI's Comprehensive Standards.	
	102-55 GRI Content Summary	About the report	
	102-56 External assurance	Assurance statement	

Material Topics Economic and business performance

GRI Standard	Disclosure	Response/ Where to find information	Omission
GRI 103: Management approach 2016	103-1 Clarification of relevant topics and their limits	About the report	
	103-2 Management approach and its components	Expanded energy	
	103-3 Evaluation of the management approach	Expanded energy	
GRI 201: Economic performance 2016	201-1 Direct economic value generated and distributed	Expanded energy	
	201-2 Financial implications and other risks and opportunities due to climate change	Expanded energy	
	201-3 Defined benefit plan obligations and other retirement plans	Expanded energy	Irani does not have pension plans for employees.
	201-4 Financial assistance received from government	None	

Materials

GRI Standard	Disclosure	Response/ Where to find information	Omission
GRI 103: Management approach 2016	103-1 Clarification of relevant topics and their limits	About the report	
	103-2 Management approach and its components	Expanded attitude	
	103-3 Evaluation of the management approach	Expanded attitude	
GRI 301: Materials 2016	301-1 Materials used by weight or volume	Expanded attitude	
	301-2 Recycled input materials used	Expanded attitude	
	301-3 Recovered products and their packaging materials	Expanded attitude	

Energy

GRI Standard	Disclosure	Response/ Where to find information	Omission
GRI 103: Management approach 2016	103-1 Clarification of relevant topics and their limits	About the report	
	103-2 Management approach and its components	Expanded attitude	
	103-3 Evaluation of the management approach	Expanded attitude	
GRI 302: Energy 2016	302-1 Internal energy consumption of the organization	Expanded attitude	
	302-2 External energy consumption of the organization	Expanded attitude	
	302-3 Energy intensity	Expanded attitude	
	302-4 Reducing power consumption	Expanded attitude	Information on energy reductions achieved directly from initiatives is not available.
	302-5 Reduction in energy requirements of products and services	Expanded attitude	Not applicable.

Water

GRI Standard	Disclosure	Response/ Where to find information	Omission
GRI 103: Management approach 2016	103-1 Clarification of relevant topics and their limits	About the report	
	103-2 Management approach and its components	Expanded attitude	
	103-3 Evaluation of the management approach	Expanded attitude	
GRI 303: Water 2016	303-1 Water use by source	Expanded attitude	
	303-2 Water sources significantly affected by organization capture	Expanded attitude	
	303-3 Recycled and reused water	Expanded attitude	

Biodiversity

GRI Standard	Disclosure	Response/ Where to find information	Omission
GRI 103: Management approach 2016	103-1 Clarification of relevant topics and their limits	About the report	
	103-2 Management approach and its components	Expanded attitude	
	103-3 Evaluation of the management approach	Expanded attitude	

GRI 304: Biodiversity 2016	304-1 Operational sites owned, leased, managed in or adjacent to protected areas and areas of high biodiversity value outside protected areas	Expanded attitude	
	304-2 Significant impacts of activities, products and services on biodiversity	Expanded attitude	
	304-3 Protected or recovered habitats	Expanded attitude	
	304-4 IUCN Red List species and national conservation list species with habitats in areas affected by operations	Expanded attitude	

Emissions GRI Standard	Disclosure	Response/ Where to find information	Omission
GRI 103: Management approach 2016	103-1 Clarification of relevant topics and their limits	About the report	
	103-2 Management approach and its components	Expanded attitude	
	103-3 Evaluation of the management approach	Expanded attitude	
GRI 305: Emissions 2016	305-1 Direct GHG Emissions (Scope 1)	Expanded attitude	
	305-2 Indirect GHG emissions (Scope 2)	Expanded attitude	
	305-3 Other indirect GHG emissions (Scope 3)	Expanded attitude	
	305-4 Intensity of GHG emissions	Expanded attitude	
	305-5 Reduction of GHG emissions	Expanded attitude	
	305-6 Emissions of substances that deplete the ozone layer (ODS)	Expanded attitude	We have not adopted the formula indicated by GRI because we do not produce, import, or export ozone layer depleting substances. The data presented are related to emissions from the use of air conditioning refrigeration gas.
	305-7 Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant atmospheric emissions	Expanded attitude	

Effluents and Waste GRI Standard	Disclosure	Response/ Where to find information	Omission
GRI 103: Management approach 2016	103-1 Clarification of relevant topics and their limits	About the report	
	103-2 Management approach and its components	Expanded attitude	
	103-3 Evaluation of the management approach	Expanded attitude	
GRI 306: Effluents and Waste 2016	306-1 Total water discharge, broken down by quality and destination	Expanded attitude	
	306-2 Waste by type and method of disposal	Expanded attitude	
	306-3 Significant spills	None	
	306-4 Transport of hazardous waste	Expanded attitude	
	306-5 Masses of water affected by discharges and/or water runoff	Expanded attitude	

Environmental Assessment of Suppliers GRI Standard	Disclosure	Response/ Where to find information	Omission
GRI 103: Management approach 2016	103-1 Clarification of relevant topics and their limits	About the report	
	103-2 Management approach and its components	Expanded interface	
	103-3 Evaluation of the management approach	Expanded interface	
GRI 308: Environmental Assessment of Suppliers 2016	308-1 New suppliers selected based on environmental criteria	Expanded interface	The Company is evaluating the possibility of disclosing this information in upcoming reports.
	308-2 Negative environmental impacts on the supply chain and actions undertaken	Expanded interface	The Company is evaluating the possibility of disclosing this information in upcoming reports.

Labor GRI Standard	Disclosure	Response/ Where to find information	Omission
GRI 103: Management approach 2016	103-1 Clarification of relevant topics and their limits	About the report	
	103-2 Management approach and its components	Expanded view	
	103-3 Evaluation of the management approach	Expanded view	
GRI 401: Labor 2016	401-1 New employee hiring and employee turnover	Expanded view	
	401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees	All Irani industrial units and offices are considered as important operational units.	The Company is evaluating the possibility of disclosing this information in upcoming reports.
	401-3 Parental leave	Expanded view	

Occupational health and safety GRI Standard	Disclosure	Response/ Where to find information	Omission
GRI 103: Management approach 2016	103-1 Clarification of relevant topics and their limits	About the report	
	103-2 Management approach and its components	Expanded view	
	103-3 Evaluation of the management approach	Expanded view	
GRI 403: Occupational health and safety 2016	403-1 Representation of workers on formal worker health and safety committees	Expanded view	
	403-2 Types of injuries and injury rates, occupational diseases, days lost, absenteeism, and number of work-related deaths	In 2017, there were 13 accidents resulting in work absences and 7 accidents without absences, all from third parties.	The Company is assessing the possibility of monitoring and disclosing information stratified by gender in upcoming reporting cycles.
	403-3 Workers with high incidence or high risk of diseases related to their occupation	Expanded view	
	403-4 Health and safety topics covered in formal agreements with trade union organizations	Expanded view	

Training and education GRI Standard	Disclosure	Response/ Where to find information	Omission
GRI 103: Management approach 2016	103-1 Clarification of relevant topics and their limits	About the report	
	103-2 Management approach and its components	Expanded view	
	103-3 Evaluation of the management approach	Expanded view	
GRI 404: Training and education 2016	404-1 Average hours of training per year per employee	Expanded view	
	404-2 Employee qualification update programs and career transition assistance programs	Expanded view	Information on programs for employment continuity and end-of-career management are not available.
	404-3 Percentage of employees receiving regular performance and career evaluations	Expanded view	

Diversity and equal opportunity GRI Standard	Disclosure	Response/ Where to find information	Omission
GRI 103: Management approach 2016	103-1 Clarification of relevant topics and their limits	About the report	
	103-2 Management approach and its components	Expanded view	
	103-3 Evaluation of the management approach	Expanded view	
GRI 405: Diversity and equal opportunity 2016	405-1 Diversity of governance bodies and employees	Expanded view	The Board of Directors is comprised of 5 men over the age of 50. Of these, 40% belong to the family group of the Company's founders and 60% are specialists without familial connections.
	405-2 Proportion of base salary and remuneration for women and men	Expanded view	

Local communities		Response/ Where to find information	
GRI Standard	Disclosure		Omission
GRI 103: Management approach 2016	103-1 Clarification of relevant topics and their limits	About the report	
	103-2 Management approach and its components	Expanded attitude	
	103-3 Evaluation of the management approach	Expanded attitude	
GRI 413: Local communities 2016	413-1 Operations with local community involvement, impact assessments, and development programs	Expanded attitude	
	413-2 Operations with significant actual and potential impacts on local communities	Expanded attitude	

Social assessment of suppliers		Response/ Where to find information	
GRI Standard	Disclosure		Omission
GRI 103: Management approach 2016	103-1 Clarification of relevant topics and their limits	About the report	
	103-2 Management approach and its components	Expanded interface	
	103-3 Evaluation of the management approach	Expanded interface	
GRI 414: Social assessment of suppliers 2016	414-1 New suppliers selected based on social criteria	Expanded interface	The percentage of new suppliers assessed on the basis of social criteria was not available for this report.
	414-2 Negative social impacts on the supply chain and actions undertaken	Expanded interface	119 suppliers were evaluated on aspects such as decent work, health and safety, freedom of association and the right to collective bargaining, respect for diversity, working hours, and remuneration.

Consumer health and safety		Response/ Where to find information	
GRI Standard	Disclosure		Omission
GRI 103: Management approach 2016	103-1 Clarification of relevant topics and their limits	About the report	
	103-2 Management approach and its components	Expanded energy	
	103-3 Evaluation of the management approach	Expanded energy	
GRI 416: Saúde e Segurança do Consumidor 2016	416-1 Evaluation of health and safety impacts of products and services.	Expanded energy Expanded interface	
	416-2 Incidents of non-compliance related to health and safety impacts of products and services.	None	

(102-56) Assurance

A BSD Consulting independently verified the process of preparing Irani's 2017 Sustainability Report, developed in accordance with the Global Reporting Initiative (GRI), in the "agreement" option. The purpose of the process is to provide Celulose Irani S.A.'s stakeholders with an independent opinion on: the quality of the report; the processes of engagement with stakeholders; adherence to the principles of AA1000AS 2008; and the company's sustainability management.

Independence

We work independently and ensure that no BSD member has consulting contracts or other business ties with Irani. BSD Consulting is licensed by AccountAbility as a Licensed Assurance Provider under registration number 000-33.

Our Competence

BSD Consulting is a company that is specialized in sustainability. The work was conducted by a team of experienced professionals trained in external verification processes.

Responsibilities of Irani and BSD

The preparation of the Sustainability Report, as well as the definition of its contents, is Irani's responsibility. The verification of the report was the subject of BSD's work.

Scope and Limitations

The scope of our work includes information on the full version of Irani's 2017 Sustainability Report for the period covered by the report from January 1, 2017 to December 31, 2017. The independent verification process was conducted in accordance with the AA1000 Assurance Standard 2008, in the condition of Type 1 verification, providing a moderate level of Assurance. The objectives of the Statement of Assurance are to inform interested parties of BSD's findings on the process of assessing the adherence of Irani's accountability to the three principles: Inclusion, Materiality and Responsiveness. The verification of financial data was not the subject of BSD Consulting's work.

Methodology

Procedures developed during the work and the AA1000AS process verification approach include:

- Evaluation of the contents of the 2017 Sustainability Report;
- Evaluation of the process of engagement and materiality, focusing on the GRI Standards criteria;
- Understanding the flow of processes for obtaining and generating information for the Sustainability Report;
- Research of public information about the sector and the company (press and sites);
- Interviews with managers of key areas regarding the relevance of the information for the reporting and management of sustainability;
- Interviews with company leaders and, where relevant, verification of information about sustainability performance with the understanding of the company's management;
- Analysis of the evidence from the stakeholder consultation process and material management processes;
- Analysis of the relevance of information from the Sustainability Report from the point of view of external audiences;
- Based on sample testing, confirmation of information from the Sustainability Report with supporting documentation, management reports, internal controls and official correspondence.

Main Conclusions on Adherence to the AA1000AS Principles 2008

1. Inclusion - addresses the participation of stakeholders in the development of a transparent and strategic sustainability management process.

- Irani has a definition of the groups of stakeholders considered as priorities for the company: communities, government and society, suppliers, shareholders, employees and customers. A structured process of mapping and prioritizing specific stakeholders for consultation and engagement has not been identified. It is important that the company establish a continuous and structured process to identify and prioritize its audiences periodically, including stakeholders most impacted by the company, as well as to define the engagement strategy.
- In 2017, Irani conducted a stakeholder consultation process focused on reviewing its material themes. Six representatives from the external public were interviewed, such as customers, suppliers and public authorities. It is worth highlighting the opportunity to broaden the consultation process to priority audiences that represent all the regions where the company operates, especially the involvement of other stakeholders such as: representatives of communities affected directly or indirectly by company operations, labor unions, NGOs and shareholders.
- The internal public participated in the material review process in 2017, through a questionnaire sent to nine employees who participated in the discussions on innovation and sustainability during the strategic planning review process. It is important for Irani to broaden the consultation to the internal public by considering all organizational levels and units in order to obtain the most comprehensive and representative view of this in-house audience.
- At the end of 2017, Irani set up a Sustainability Committee, composed of all the executive officers and managers responsible for each unit. The meetings will be held every four months and the first agenda scheduled in 2018 is the analysis of the sustainability report. It is important to guarantee the engagement and participation of the leadership in the Committee, thus assuring strategic orientation on sustainability issues. The need to formalize a regulation, fully record the main decisions, as well as to address relevant demands of the engagement processes in meetings of the Committee is emphasized.

2. Materiality (or Relevance) - issues necessary for stakeholders to draw conclusions about the organization's economic, social and environmental performance.

- Irani undertook a process to review the material issues in 2017, including consultations with internal and external stakeholders, as well as documents relevant to the sustainability context and to the pulp and paper sector. It is important that the company maintain the evaluation of reference documents and those that contribute to a broad vision of the sustainability context.
- The prioritization of the material themes was performed by the sustainability area, quantitatively, assigning points and weights to the results of the analysis of the sources used. From this stage, similar subjects were grouped, resulting in 10 material themes. It highlights the clarity and objectivity applied in the prioritization process, as well as the registration of the stages conducted by the sustainability area.
- In 2017 the sustainability area conducted a meeting with the Executive Board to validate the material themes prioritized in the review process. As a result of the consultation with the leadership, there neither inclusion nor exclusion of themes, but the Social-environmental assessment of the suppliers theme was reallocated as a 'Social responsibility' sub-theme, resulting in nine material themes. It is important to maintain the involvement of leadership in the materiality process.
- The nomenclature used for material themes can be improved. The topics defined by Irani are generic and do not clearly and specifically indicate the priorities for the company. Excellence, Environmental Responsibility, and Social Responsibility, for example, are broad themes, and it is unclear what are the specific material issues for the organization in these issues. It is important to pay attention to the meaning of each prioritized theme, avoiding the grouping of different themes.

- During the materiality review process, the impacts of material themes were not identified. The identification of impacts through the process of consulting stakeholders and other channels of dialogue between the company and its priority audiences allows the material themes to more significantly represent the viewpoints of these audiences and shows the impact of the company on the areas in which it operates. The definition of impacts of the material themes assists the company in meeting the GRI Standards Management Approach requirements (items 103-1a and b).
- The identification of the limits of the material themes was carried out by the area of sustainability and the group of collaborators who participated in the Strategic Planning in the Innovation and Sustainability theme. The analysis included the links in the Irani value chain that were most impacted by the issue. It is important to review this process, considering the concept of GRI Standards, according to which the limit is determined by the organization's involvement with the impacts - that is, if the company directly causes or contributes to the impacts through its relations with other links in the chain of value.

3. Responsiveness - addresses the actions taken by the organization as a result of specific stakeholder demands.

- In 2017, Irani conducted a process of reviewing mission, vision and values and strategic planning for the next 10 years. Starting in 2018, the company will focus on disseminating the results of this process with the internal public in two stages. The first stage will be the disclosure by the president, personally, in all units. The second stage of dissemination, still in the structuring phase, will be conducted by selected multipliers in Irani, who will dialogue with the internal public, bringing examples of day-to-day situations in which Irani's values are applicable.
- Irani's health and safety management is carried out in each unit by recording occurrences, monitoring and reporting monthly to corporate health and safety officials, as well as accident reduction targets, defined based on benchmarking analysis in the sector. Records and management processes are the same for third parties, only corrective actions are defined by the outsourced company. There is an opportunity to improve the records of health and safety occurrences through systematization of information for own and outsourced employees, contributing to disclosure item 403-2 (Injury rates, occupational diseases, lost days, absenteeism and job-related fatalities).
- The Supplier Performance Index (IDF) is an annual assessment for five supplier categories (critical and chemical products, consumer and critical materials and services, critical service providers, FSC and forest products, transportation services, logistics shipment) considering the fulfillment of contractual and legal specifications, service and quality of the product and/or service rendered. The supply area conducts a monthly critical review of evaluations and this process is tied to targets and variable compensation of the area. There is an opportunity to systematize the controls and analyses of critical suppliers as well as broaden the scope for environmental and social issues that go beyond legal compliance.
- The environmental and quality area of the corrugated containerboard packaging units carries out the evaluation and follow-up of documentation regarding the environmental legal compliance of its critical suppliers. It is important to formalize criteria to identify suppliers critical to the environment, as well as to extend this analysis to the other units. The controls of the 308-1 indicators could be improved (New suppliers selected based on environmental criteria) and 414-1 (New suppliers selected based on social criteria), addressing the new suppliers evaluated with a focus on meeting the GRI Standards requirements.
- Information on disclosure item 301-1 (materials used by weight and volume) was obtained from the paper system, for the paper units, and from a controller's report to the corrugated containerboard packaging and resin units. The environment and quality area of each unit classifies the materials considered to be renewable. Information on the materials consumed is systematized, but there is an opportunity to formalize the classifications of the materials used for the units in a way that is aligned with the GRI Standards. It is worth highlighting the opportunity to improve the management of this topic through a strategic analysis of the materials consumed by the units.

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- Irani monitors information on waste generated from manual records and invoices every month and the nomenclature used for each waste destination is defined by each unit. The control of information from indicator 306-2 (waste by type and disposal method) is not systematized and only the paper unit in Santa Catarina has targets for reducing the destination of waste to landfills. There is an opportunity to improve the controls of internally generated waste, establish monthly targets that bolster performance regarding the theme in all units and formalize the classifications and method of disposal for each waste, focusing on internal alignment and compliance with the GRI standards.

Final Considerations

We highlight the efforts made by Irani in the sustainability reporting process, using the GRI Standards, applying the comprehensive “agreement” option. In the view of BSD Consulting, Irani has implemented management for the material themes through programs, indicators and goals. The company has demonstrated commitment to advances in its sustainability strategic management through the alignment of the material themes with the strategic planning process.

Irani can improve compliance with GRI Standards requirements in order to adequately address the comprehensive “agreement” option. There is an opportunity to improve reporting on the General Content Governance items (102-18 to 102-39) through engagement initiatives with the highest governance body in managing the company’s social, economic and environmental impacts.

The 2017 Sustainability Report reflects both positive points and elements that have not yet been implemented in management, contributing to the balance and transparency of the information, according to the maturity of the company’s sustainability reporting process.

São Paulo, May 21, 2018

BSD Consulting - Brazil

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June/2018

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