



# SUSTAINABILITY REPORT 2020





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# ▶ Message from the CEO



We believe that diverse, capable people with innovative ideas and mindsets can transform the future

The novel coronavirus pandemic has created a state of havoc that few could have imagined. But it has also been a learning experience and an opportunity to reassess our role as individuals and as companies. Knowing our priorities has become all the more important. We now need to think about the individual parts as well as the whole; it has become clearer than ever that we are mutually dependent. As the virus continues to spread, the need for progress as a society has been brought to the fore.

As an organization, we tackled the challenges in the year with resilience, agile decision-making and the support of a solid governance structure. This allowed us to ensure contin-

ued supply to our customers—many of which produce items that are essential in responding to the social and economic impacts from the pandemic—while protecting the health of our employees and launching a range of initiatives to assist the communities where we operate. We also preserved our financial position to continue investing in technology and research, supporting jobs and fueling local economies.

We remain confident that both solidarity and development will continue to flourish. Although we still don't know what the post-crisis world will look like, we are clearly at a crossroads where we must choose who we want to be. Intolerable inequalities, hunger and injus-



Head offices in Joinville, Brazil

tices of all kinds seem to have been magnified as we focus on what is most essential: saving lives. We base our sustainability strategy and commitments on a belief that our technologies can help solve the world’s most pressing social challenges—protecting the environment and raising living standards for all people, especially the most vulnerable.

By applying our technological expertise, we will continue to support the development of solutions for the efficient and cost-effective transportation of essential items; for water, sanitation and energy infrastructure, safe housing, and hospitals; and for food production and distribution. Our role in this journey is to ensure that both our own operations and the applications in which our products are used are economical, efficient and have minimal environmental impact.

We have arrived where we are—and will continue forward—through the dedication of countless people. I am extremely grateful to

those who have been a part of our journey, and to our team for the dedication, efficiency, consistency and passion they demonstrate each day. I would also like to thank our suppliers, partners, shareholders and customers for your contribution to making Tupy a world-leading player in the segments where we operate.

At Tupy, we believe that diverse, capable people with innovative ideas and mindsets can transform the future; in the coming years, we will strengthen our support for innovation both within and outside the Company, expanding the ecosystem and catalyzing progress—especially on solutions addressing the essential needs of humanity and sustainable development.

**Fernando Cestari de Rizzo**  
CEO



By applying our technological expertise, we will continue to support the development of solutions that are essential for society



# How to read this report

We are pleased to present the first edition of our Sustainability Report, the result of a joint effort by our teams to share some of our key achievements and sustainability initiatives in 2020 with our stakeholders, including communities, employees, customers, investors, suppliers, and wider society.

The report has been prepared in accordance with the guidelines outlined in the Global Reporting Initiative (GRI) Standards. In compiling its contents, we considered our strategy and how it aligns with social, environmental and governance (ESG) criteria. Based on a set of material topics, we established key performance indicators to assess and report on our social, environmental and economic performance and results of operations (*learn more in Materiality*).

This report contains information on our operations in Brazil and Mexico in the period from January 1 to December 31, 2020. [GRI 102-45, 102-50](#)

Photos in this report of people not wearing masks were taken prior to the pandemic.

For further information about the contents of this report, please write to [dri@tupy.com.br](mailto:dri@tupy.com.br). [GRI 102-53](#)



# Materiality



In 2020 we conducted our first materiality exercise to identify topics that are most material to our business and connected to our strategy

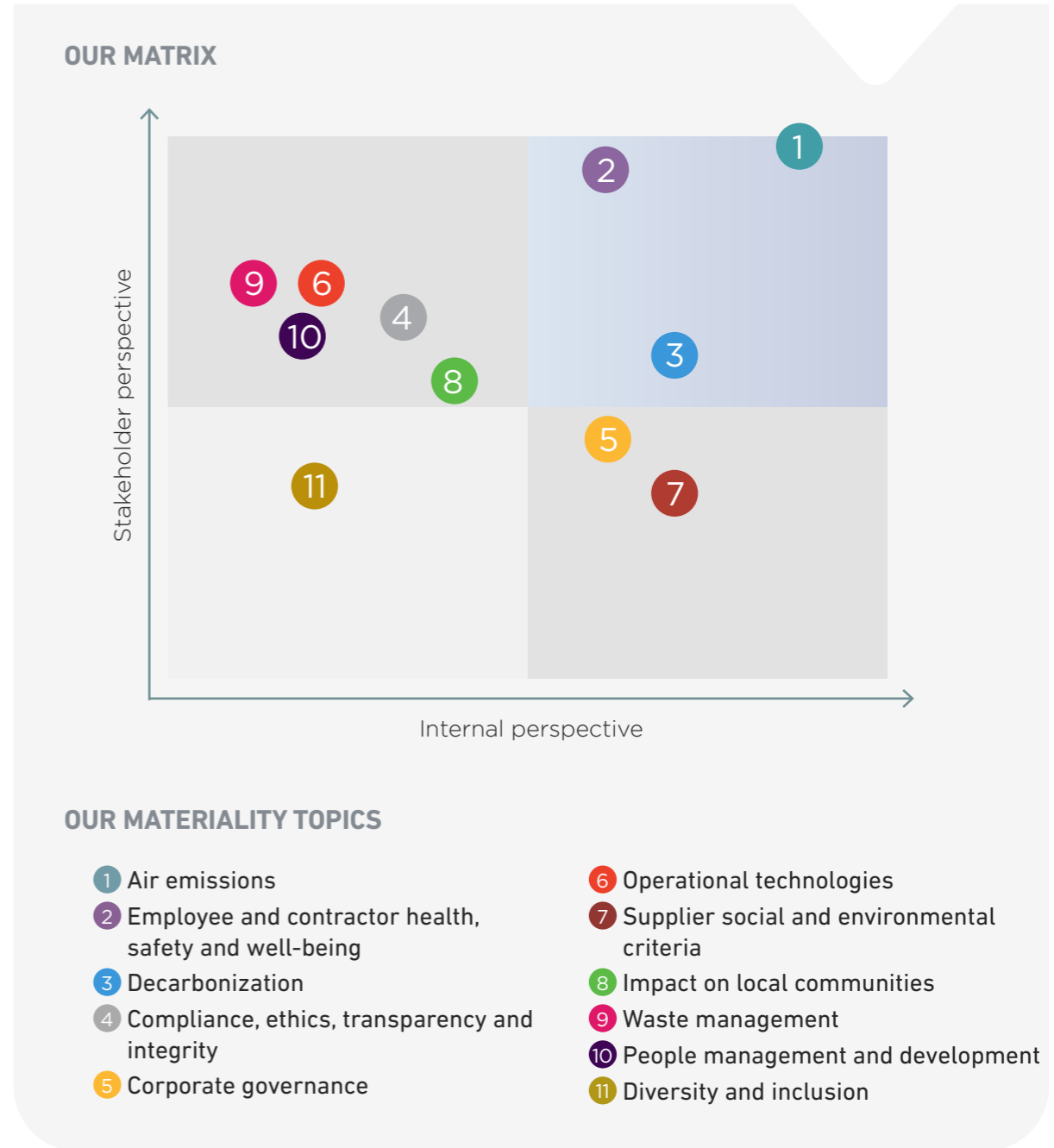
As part of this process, we conducted an extensive review of internal documents including our *Strategic Plan 2020-2024* and *Annual Report 2019*, as well as industry research reports such as the GlobeScan Radar Report 2020, The State of Sustainable Business 2019, Yearbook SAM S&P 2020, GRI Sustainability Topics for Sector (Automobiles and Components and Mining – Iron, Aluminum, Other Metals), Sustainability Accounting Standards Board – SASB (Auto Parts and Iron & Steel Producers), MSCI ESG Rating and Bloomberg ESG.

We also interviewed key management personnel (CEO, vice presidents and officers) and conducted an online survey of internal and external stakeholders, including the Board of

Directors, employees, customers, suppliers, governments and communities, investors and shareholders, society, the media, strategic partners, resellers (pipe fittings), labor unions, and universities, receiving a total of **735 responses**. [GRI 102-40](#), [102-42](#), [102-43](#), [103-1](#)

The outputs from the survey informed the selection of **11 priority topics**, which were then validated by the Board of Directors and Executive Board, and are addressed throughout this report.

Material topics were selected and assessed considering their alignment with our management approach and strategy, ESG aspects, and the Sustainable Development Goals ([SDGs](#))—see the table on the following page.





## ▶ OUR PRIORITIES GRI 102-44, 102-46, 102-47, 103-1

Material topics <sup>1</sup>	Description	Approach (what we do) <sup>2</sup>	Extent of impact (within and outside the organization)	GRI Topics	Related disclosures	SDGs <sup>3</sup>
1. Air emissions	Initiatives to reduce local air emissions (such as particulate matter) and greenhouse gas emissions from our production process, and to improve the energy efficiency of our machinery and equipment	Environmental Agenda	Within and outside the organization (employees, customers, society, suppliers, governments, strategic partners and the media)	Emissions	305-1, 305-2, 305-7	
				Energy	302-1	
2. Employee and contractor health, safety and well-being	Initiatives to enhance people's quality of life, safety and health	People management	Within and outside the organization (employees, customers, suppliers and labor unions)	Health, safety and well-being	403-1, 403-2, 403-3, 403-4, 403-5, 403-6, 403-7, 403-9	
3. Decarbonization	Investment in research and development to deliver products and services with a lower carbon footprint	Research and development	Within and outside the organization (employees, customers, investors, partners and academia)	Energy	302-5	
		Our journey to carbon neutrality				
4. Compliance, ethics, transparency and integrity	Ensuring compliance with laws and regulations, and fostering transparency and ethical relationships with all stakeholders	Integrity	Within and outside the organization (employees, customers, suppliers, investors, strategic partners and resellers (pipe fittings))	Ethics and integrity	102-17	
		People management		Anti-corruption	205-3	
				Anti-competitive behavior	206-1	
				Non-discrimination	406-1	
5. Corporate governance	Board of Directors composition and activities, and independence of advisory committees	Governance	Within and outside the organization (employees, investors and strategic partners)	Governance	102-18, 102-22, 102-28, 102-35	
6. Operational technologies	Investment in automation and enterprise resource planning (ERP) systems, and deployment of Industry 4.0 technologies	Operational processes	Within and outside the organization (employees, customers, investors, strategic partners and academia)			

Material topics <sup>1</sup>	Description	Approach (what we do) <sup>2</sup>	Extent of impact (within and outside the organization)	GRI Topics	Related disclosures	SDGs <sup>3</sup>
7. Supplier social and environmental criteria	Encouraging and enforcing compliance with labor and environmental laws and regulations and sustainable practices	Suppliers	Within and outside the organization (employees, suppliers, investors and the media)	Freedom of association and collective bargaining	407-1	8
				Child labor	408-1	
				Forced or compulsory labor	409-1	
8. Impact on local communities	Supporting jobs and livelihoods for local communities, and contributing to social and economic development through capacity building, social investments, recreation, sports and culture	People management	Outside the organization (suppliers, communities, the media and academia)	Indirect economic impact	203-2	1 4
		Communities		Local communities	413-2	8 10
9. Waste management	Reducing waste volumes and increasing waste recycling, reuse and treatment	Environmental agenda	Within and outside the organization (employees, suppliers, governments, academia, investors and resellers (pipe fittings))	Materials	301-2	11 12
		Suppliers		Waste	306-1, 306-2, 306-3, 306-4 306-5	
10. People management and development	Supporting employee development and career planning through training, capacity building and management support	People Management	Within and outside the organization (employees, customers, suppliers, resellers (pipe fittings), and labor unions)	Employment	401-1	4
				Training and education	404-1, 404-2, 404-3	
11. Diversity and inclusion	Providing equal opportunity at all levels of the organization, and a more diverse and inclusive workplace environment	People management	Within and outside the organization (employees, suppliers, society and labor unions)	Diversity and equal opportunity	405-1, 405-2	5
				Non-discrimination	406-1	

1. There are no specific limitations on the topic boundary.  
 2. Material topics are addressed in the relevant chapters.  
 3. Sustainable Development Goals.

SUSTAINABLE DEVELOPMENT GOALS (SDGS)







## ▶ THE YEAR AT A GLANCE



**R\$ 4.2+ billion**  
in net revenue



**R\$ 605.2 million**

in Adjusted EBITDA,  
with an EBITDA margin  
of 14.2% of revenue



**R\$ 291.7 million**  
in operating  
cash flow



**13,000+**  
employees



**40,000+**  
people served by our  
COVID-19 Screening and  
Testing Center



**3,000+**  
suppliers,  
supporting  
entrepreneurship  
and small  
businesses

**1/3**



of Board members  
are independent



### Committees

on strategy, innovation,  
and Environmental, Social,  
Governance and Data  
protection (ESGD) issues



**47 million m<sup>2</sup>**  
of protected  
areas, conserving  
biodiversity



**100% of  
industrial**

and sanitary wastewater is  
treated on-site and reused in  
the production process



**99%**

of metals used as raw  
materials, and around  
50% of overall waste  
volumes recycled

### Ongoing

monitoring of strategic,  
long-term objectives



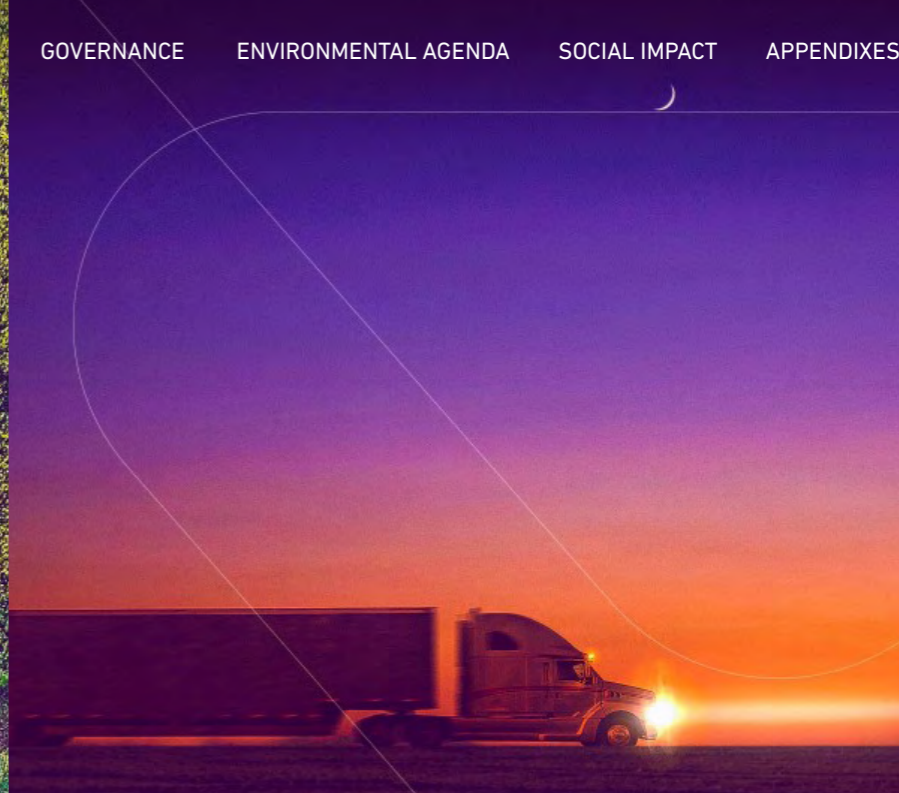


# 1.

# ▶ About Tupy

## IN THIS CHAPTER

- > GEOGRAPHIC PRESENCE
- > OUR PRINCIPLES
- > OUR INTEGRATED POLICY
- > OPERATIONAL PROCESS



# We serve industries that are essential for development

Over the course of our 83-year history as a company, we have grown to become a leader in the development and manufacture of cast iron structural components—especially engine blocks and cylinder heads—produced to a high level of geometric and metallurgical complexity. [GRI 102-1, 102-2](#)

We are a Brazilian-listed, multinational metallurgical engineering company specializing in the development of high-complexity products. Tupy has a workforce of more than 13,000 employees across manufacturing



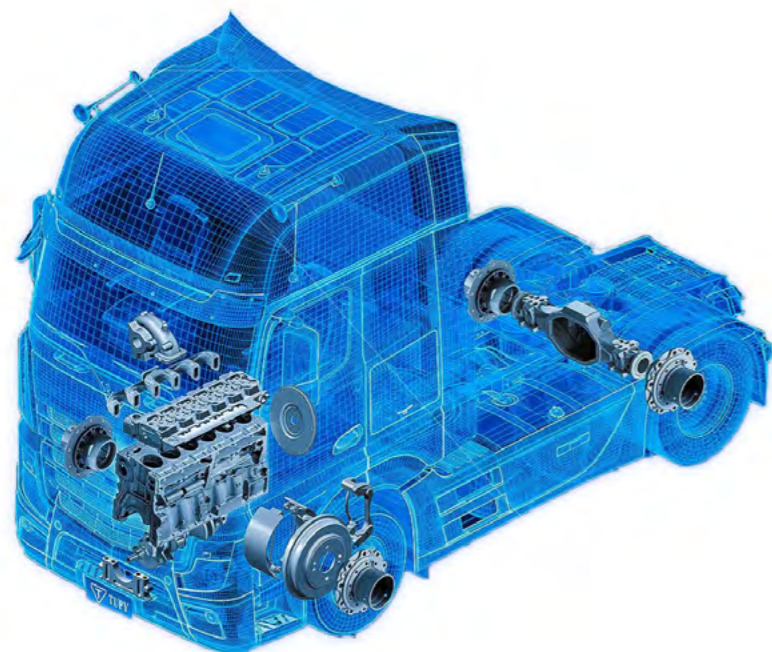
Tupy is a Brazilian-owned, multinational ironworks company

plants in Joinville (SC), where we are headquartered, Mauá (SP), Saltillo and Ramos Arizpe (Coahuila, Mexico), and sales offices in Brazil, the US and Germany. This geographic footprint provides a platform from which we export our products to customers around the world, with which we collaborate to deliver customized solutions (*read more in [Research and Development](#)*). [GRI 102-3, 102-4, 102-5, 102-6](#)

## PRODUCTS

Tupy produces structural components for the capital goods industry, supplied to major global manufacturers of machinery, vehicles and equipment for the transportation, infrastructure, agriculture and power generation sectors. Our codeveloped parts and components are used in trucks, buses, farm machinery, construction machinery, cars, industrial and maritime engines, forklifts, and much more (*see infographic*).





Tupy's product portfolio also includes ductile iron pipe fittings for liquid, gas and steam service in residential, commercial and industrial applications; and a variety of sections made of nodular or gray iron.

Tupy plays an important role as an upstream supplier to several industries that are essential for development, reducing inequalities and improving living quality and life expectancy. Our products are used to build decent housing, improve crops, harvest and distribute food products, and build basic sanitation, water and energy infrastructure. Our social contribution therefore extends beyond the initiatives described in this report, but is also materialized in our purpose through the products and services we deliver.

### PERFORMANCE

In terms of our economic and financial performance, despite the impacts from the COVID-19 pandemic we ended fiscal 2020 with an adjusted EBITDA margin of 14.2%, an improvement on 2019. Even with sales volumes dropping by 31%, operating cash flows were a strong R\$ 291.7 million. We ended the year with R\$ 1.4 billion in cash and cash equivalents, higher than pre-pandemic levels (*read more in [Results](#)*). **GRI 102-7**

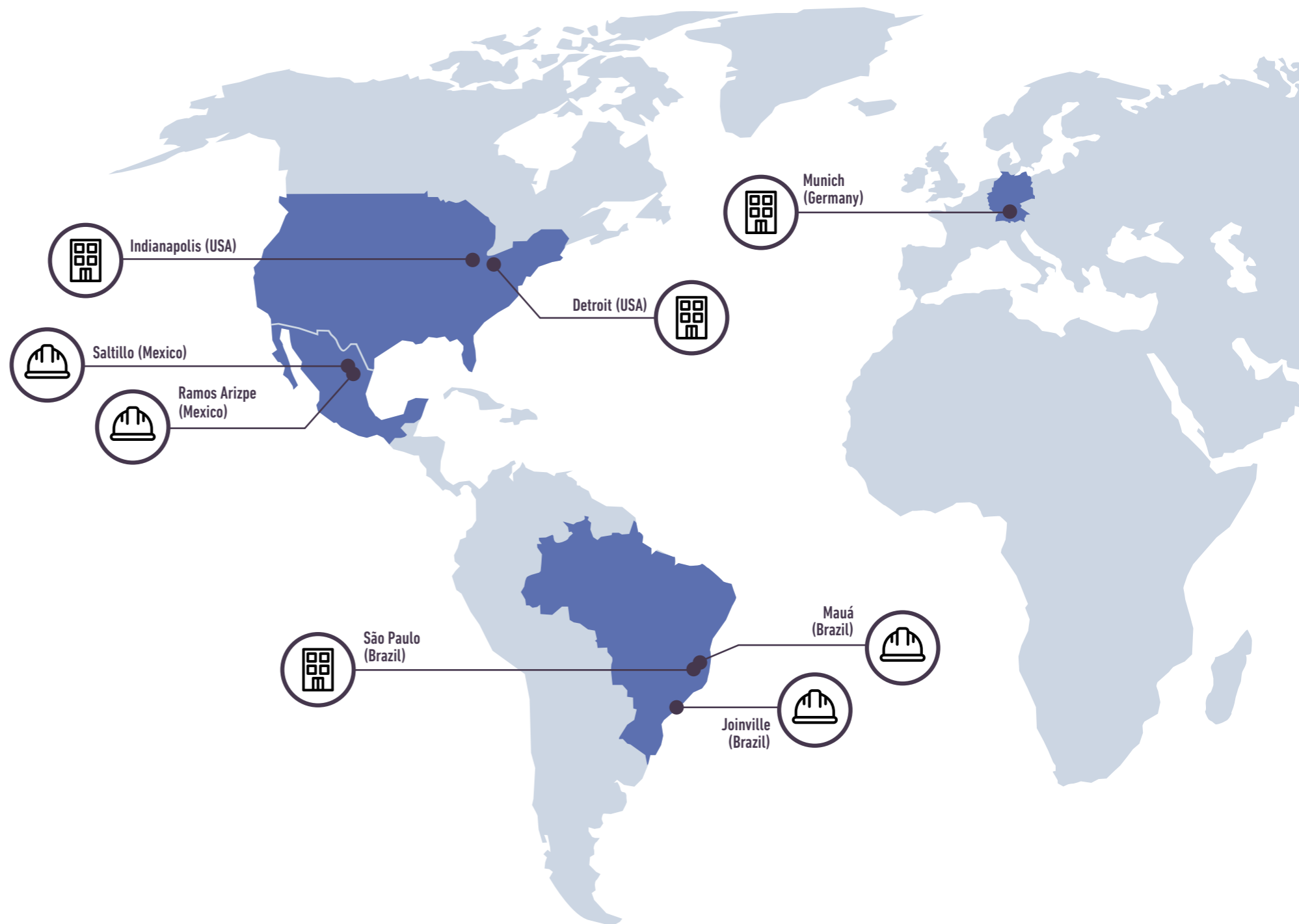
We would be remiss to report on year 2020 without mentioning our joint efforts and support for the pandemic response. An especially important initiative was a Screening and Testing Center we set up in Joinville, which served more than 40,000 people throughout the year (*read more in [Communities](#)*).



Despite the impact from the COVID-19 pandemic, we ended 2020 with an EBITDA margin higher than in 2019

► GEOGRAPHIC PRESENCE

# Plants and offices



► **Plants**

Joinville, Mauá  
Saltillo and Ramos Arizpe

► **Offices**

São Paulo  
Detroit and Indianapolis  
Munich

► **Global sales\***

North America: **67.5%**  
South and Central America: **16.6%**  
Europe: **12.1%**  
Africa, Asia and Oceania: **3.8%**

\*Share of sales to each continent.



# Tupy products are everywhere

Our essential products are present in people's everyday lives

## INDUSTRIES

- ▶ Cargo transportation and handling
- ▶ Agriculture
- ▶ Infrastructure & Construction
- ▶ Power Generation



▶ Freight transportation

▶ Pipe fittings

▶ Forklifts

▶ Pushback tugs

▶ Port infrastructure

▶ Refueling trucks

▶ Catering

▶ Light commercial vehicles

▶ Maritime

▶ Forklifts

▶ Special vehicles

▶ Generator sets

▶ Medium trucks

▶ Heavy trucks

▶ Transportation of feedstocks and raw materials

▶ Special trucks

▶ Firetrucks

▶ Excavators

▶ Fire protection systems

▶ Iron valves and fittings

▶ Buses

▶ Ambulances

▶ Harvesters

▶ Light commercial vehicles

▶ Generator sets

▶ Basic sanitation

▶ Farm machinery

▶ Tractors

▶ Rail infrastructure

# Our Principles

GRI 102-16

## ► MISSION

To contribute to the success of our shareholders and customers through our offering of value-added cast and machined products and services, while helping our employees to achieve their life goals and supporting the communities where we operate.

## ► VISION

To be a global leader in the iron foundry and machining industry, with a unique offering of high-technology and industrial piping products. Recognized as:

- > The number one choice for customers
- > An employer of choice
- > An attractive investment for the capital market

## ► VALUES

- > People
- > Health and safety
- > Economic excellence
- > Environment and community
- > Customer orientation
- > Integrity
- > Commitment
- > Communication
- > Learning and innovation.

## OUR INTEGRATED POLICY

All of our plants and offices have rules and procedures in place on health and safety, the environment, quality and social responsibility. These guidelines have been compiled into an Integrated Management Policy signed by the CEO, and include:

- > Valuing, recognizing and developing our people;
- > Consistently delivering exceptional shareholder value;
- > Exceeding customer expectations in terms of quality, delivery and services;
- > Bringing the best out of internal and external suppliers;
- > Providing timely, open and transparent communications to stakeholders;
- > Ensuring ethical and socially responsible business conduct;
- > Developing solutions to continuously improve the Management System, leveraging learning and innovation;
- > Acting responsibly, proactively and with a sense of urgency and collaboration;
- > Complying with applicable laws, regulations and standards and internal rules;
- > Performing our activities with a focus on quality, the environment, and the health and safety of employees, internal contractors, communities and customers, by: prioritizing safety, health and the environment above all other requirements; preventing risks and effectively addressing nonconformities; and optimizing resource use in support of sustainability.



## CERTIFICATIONS GRI 103-2

Tupy is certified to IATF 16949, ISO 9001 and ISO 14001. Our first certification was to ISO 9000 for the Tupy Quality Management System in 1992, and in the automotive segment we obtained QS-9000 certification in 1997, followed by ISO/TS 16949 and currently IATF 16949:2016. Other segments are certified to ISO 9001:2015.

Our Environmental Management System was originally certified to ISO 14001 in 2001 and is currently certified to the 2015 edition, including in relation to outsourced processes that are controlled or influenced by the organization, and managing stakeholder expectations.

In addition to certification attesting to the quality of our management systems, the pipe fittings and profiles we produce and market conform to Brazilian and international technical standards and have specific product certifications as specified in the relevant part descriptions.

# Operational processes

In the iron foundry process, alloy research and development is applied toward achieving desired physical and mechanical properties. A significant amount of technology goes into selecting and melting raw materials (ferrous scrap, pig iron and other compounds). The wide range of recipes and variables involved requires a high level of precision and control. Once molten, the metal is poured into sand molds. The solidified metal part is allowed to cool in the mold before shakeout and is then finished into the final product.

Castings then undergo post-finish machining, a complex process that imparts the final dimensions and geometry required to achieve a perfect fit with other parts and interfaces in the customer's final manufactured product. This is an opportunity we have identified to create added value in our products by offering customers additional services.



In recent years, we have also undertaken efforts to maximize productivity and operational efficiency. This is an ongoing effort to identify areas for improvement across the production process.



**40 kaizens**  
implemented to drive continuous process improvement



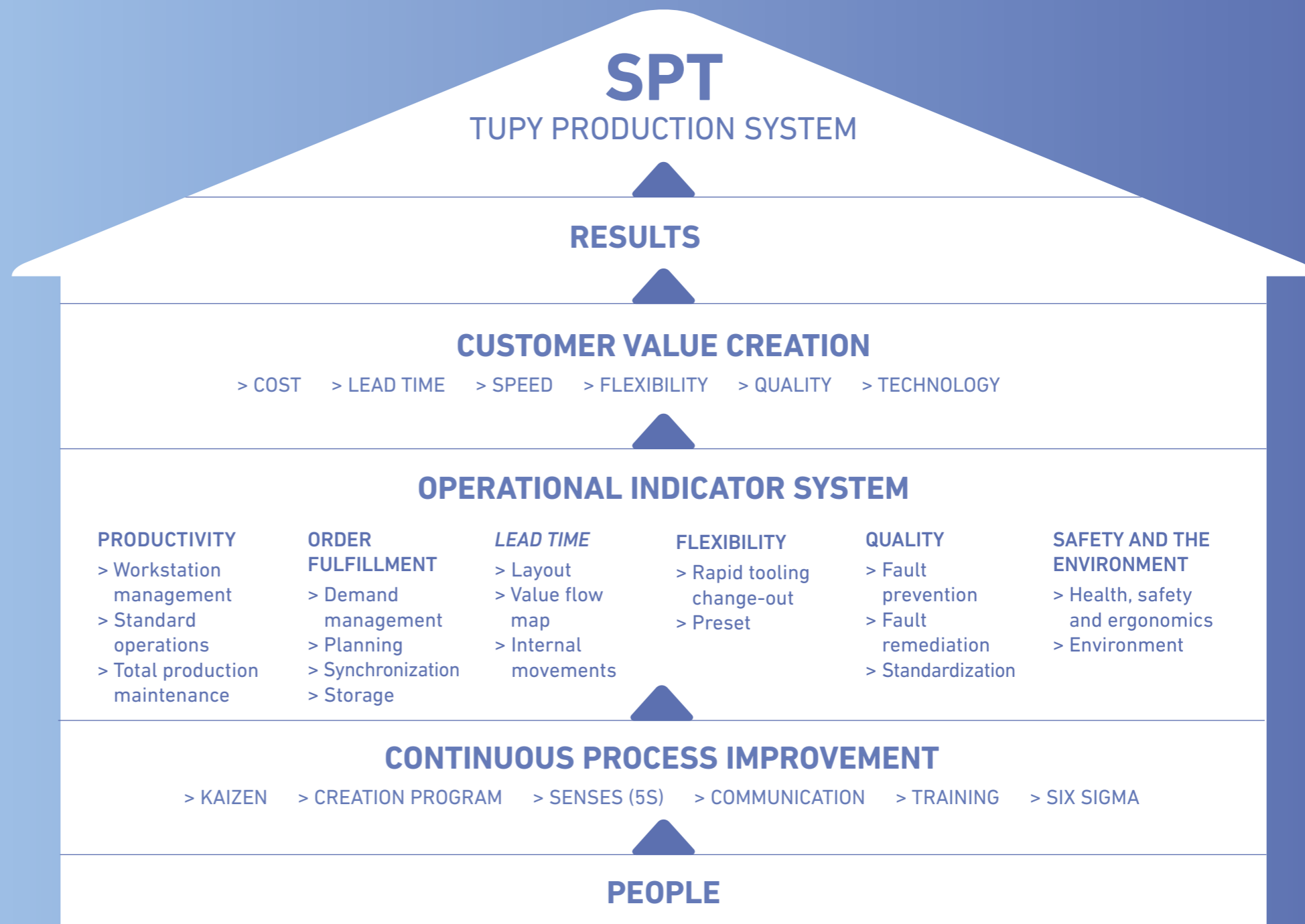


## TUPY PRODUCTION SYSTEM

Our production process is managed by the Tupy Production System (SPT), which supports and strengthens our strategy. Launched in 2014, the SPT system uses Lean Manufacturing and Theory of Constraints principles to build internal competencies that can drive excellence in delivery. The SPT is structured into four tiers: People; Continuous process improvement; Productivity circuits, Order fulfillment, Lead time, Flexibility, Quality, Safety and the Environment; and Internal and customer results.

The System comprises programs such as: 5S, Creation, Training and Kaizen. Through these programs, opportunities are identified for improvement in production process indicators.

Employee training and capacity building, greater returns on investment, cost savings, higher productivity and increased operational safety are among the benefits from the SPT system.



# ▶ OUR PRODUCTION PROCESS IN DETAIL



Before production begins, Engineering and R&D teams codevelop the casting designs with our customers

## ▶ MOLD MAKING

In this step, sand molds are produced to impart the desired outer shape of the casting. Material composition and mixing temperature are controlled to produce properties such as strength, permeability and compatibility, which are important in creating molds that will accurately produce the specified final dimensions of each casting

## Melting

## Casting

## Core making

## Pouring

## Finishing

## Machining

## ▶ CORE MAKING

Cores are made of sand that is chemically bonded by a resin and catalyst. Sand mix specifications can vary depending on geometry and thermal stress. The sand cores create the internal voids within the castings. The complexity of thin-walled castings requires the use of special additives and coatings to achieve specified dimensions, clean inner surfaces, and product quality

## ▶ POURING

In this step, chemical composition, thermal parameters and pouring time are carefully controlled. When the metal has reached the desired specifications, it is poured into the mold with the sand core already prepared

## ▶ FINISHING

The inner and outer surfaces of the castings are cleaned by grit blasting, and machines and pneumatic hand tools are used to achieve a perfect finish. Before machining, and throughout the process, a range of quality controls are applied to ensure the internal and external quality of the castings. These include dimensional, liquid penetration, ultrasonic, mechanical and other tests

## ▶ MACHINING

This process creates the final casting dimensions and geometries to achieve proper fit with end-product interfaces and assemblies

## ▶ MELTING

Before the melting process begins, the raw materials (scrap, pig iron, iron, alloys) need to be carefully selected to match the complex specifications for the castings to be produced. In addition to chemical composition—an extremely important parameter—other specifications include size, moisture and density, which depend on which furnace is used. Depending on the end product, different mechanical, physical, chemical and thermal properties are specified. Chemical composition is tightly controlled in the melting process and this, combined with pouring temperature and cooling time, produces the specified final properties of the castings

# Crisis management

GRI 102-11



We made the health of our employees and the communities where we operate our priority and undertook a range of initiatives to prevent and combat the virus

Through alignment between our operations in Brazil and Mexico, operational flexibility provided a significant advantage. This allowed us to concentrate production in our more efficient production lines, making our operations more competitive while supporting the operational continuity of our customers.

Throughout 2020, we were active on different fronts in responding to the impacts from the pandemic. Because Tupy exports more than 80% of its products and is a strategic supplier for its customers, the pandemic created additional challenges as it affected different countries and continents to varying degrees.

In tackling these challenges, we made the health of our employees and the communities where we operate our priority and undertook a range of initiatives to prevent and combat the virus. We reorganized our operations in order to match our inventories to fluctuating demand. Through initiatives and projects on different fronts, including operational efficiency and cost reduction, we not only weathered the worst of the pandemic but also delivered strong economic and financial performance (*read more in [Results](#)*).



**learn more**

For further information about our approach to tackling the novel coronavirus pandemic, read the section [COVID-19 Response](#) in this report



# 2.

## ▶ A strategy connected to sustainability

### IN THIS CHAPTER

- > OUR JOURNEY TO CARBON NEUTRALITY
- > RESEARCH, DEVELOPMENT AND TECHNOLOGY
- > RESULTS





# Our decarbonization journey

Our technical expertise, experience, and collaboration with customers and universities enable us to engage in new markets and the transition to carbon neutrality



Our purpose as a Company is to develop solutions that improve people's lives through access to decent housing, potable water, basic sanitation, energy and food products, and reduced social inequalities.

We achieve this purpose by investing in the training of our workforce, in long-term partnerships with customers, and in Research & Development (R&D). Tupy's key strategic objectives include:

- Increasing the share of high value-added services, such as machining and component assembly;
- Developing new materials and technologies, supporting our customers in their journey to decarbonize their products;
- Identifying new business opportunities where there is a demand for advanced metallurgical solutions.

We have embarked on a decarbonization journey and are increasingly discovering opportunities to support the development of technology-enabled solutions to achieve low carbon emissions.

We are exploring new materials, geometries and machining techniques to accommodate alternative fuels, and new services that we can offer by applying advanced metallurgical methods. We believe fuel diversity can be beneficial to and an important enabler of decarbonization. By harnessing multiple energy sources (natural gas, biofuels, synthetic

fuels, E-fuels, hydrogen, etc.) and technology routes, we can develop optimal solutions for each application. **GRI 302-5**

Our Research & Development department is developing projects and plans aiming to maximize our contributions. Some of these projects are currently in progress, and others are at the basic and applied research stage, including projects to advance the green economy. Other solutions are already in commercial use, such as components used in engines running on biomethane, compressed natural gas and other types of biofuels.

# Research, development and technology

The foundation of our technology is metallurgy, a science that studies metals at each stage of their lifecycle—from mining to production of end-products for commercial use. By analyzing the properties of materials and potential applications in the market, over the years we have identified new applications in different segments and identified and connected customer needs to our technical and technological capabilities.

Central to our future is the strength of our engineering capabilities and our ability to explore the market and the possibilities that our expertise can create. This includes, for example, applying metallurgical science in developing solutions with a more sustainable lifecycle, supporting a low-carbon economy.

We implement projects that are responsive to global trends in technology, innovation, and advances in segments affecting our business, ensuring that we deliver products that continue to place us at the forefront of our industry.

We have identified in recent years a growing trend toward the development of products that are lighter-weight and thinner-walled than more traditional models, enabled by the use of special alloys, such as *Compacted Graphite Iron (CGI)*. This has created an added challenge at the machining stage and required greater attention to optimizing geometry, tooling, materials and other aspects.





The complexities involved in our production process require constant technological improvement and innovation, including in areas such as additive manufacturing and simultaneous engineering, industry 4.0 and decarbonization.

Technology is ubiquitous in our operations, and is advanced on multiple fronts, including research and development (*read more in [People Management](#)*) investments in areas such as artificial intelligence software, and systems and algorithms to improve operating efficiency.

We have long-standing partnerships with universities and research centers in Brazil and other countries, a strategy that has enabled us to stretch the limits of design complexity. Also as part of our approach, we collaborate with startups on projects to expand applications for our products, including in new segments and industries. Our investment in research has increasingly strengthened our portfolio and incorporated technologies in our products that support mitigation of environmental impacts. **GRI 302-5**

Building knowledge and expertise across different fields of engineering enables us to develop product designs that align with customers' needs. With this in mind, we encourage employees to pursue master's, doctoral and post-doctoral research that can create value for Tupy's production process.



**10,638**

titles in Tupy's technical library, including scientific papers authored by employees

**2,235**

engineers and technicians work at Tupy

# Tupy's technological development journey



## Timeline

**1938** – Tupy is founded

**1959** – The Tupy Technical School is created

**1972** – The first Research & Development group is established, leading to the creation of a Technological Research Center in 1977

**2000s** – Compacted Graphite Iron (CGI) is first introduced after decades of research  
Partnerships are developed with universities in Germany and Switzerland

**2014-2020** – Tupy expands collaborations with universities, research institutes and startups



# Results

In 2020, organizations around the world were significantly impacted by the novel coronavirus pandemic. At Tupy, our COVID-19 response prioritized the health of people while ensuring a strong financial position and continued supply to our customers.

Our products are sold to many different countries and regions around the world, which were affected by the pandemic to varying degrees, creating an added challenge. This, however, did not prevent us from delivering strong results in the period.

In the third quarter of the year, we initiated a recovery supported by measures to increase operational efficiency and rebuild production volumes. We implemented several changes

in our production processes in Brazil and Mexico, including relocation of products and tooling, process redesign, daily materials mix assessments, curtailment of less efficient equipment, and supplier contract reviews.

**GRI 102-10**

We ended 2020 with a higher EBITDA margin than in 2019, despite a 31% drop in sales volumes. In addition, we had R\$ 1.4 billion in cash and cash equivalents at year-end, higher than pre-pandemic levels, and leverage of 1.32x0 Adjusted EBITDA.



## 2020 AT A GLANCE



**R\$ 4.2+ billion**  
in net revenue



**R\$ 685 million**  
in gross profit, with a margin of 16.1%



**R\$ 605.2 million**  
in Adjusted EBITDA, with a margin of 14.2% of revenue



**R\$ 291.7 million**  
in operating cash flow



### LEARN MORE

For further information, visit our Investor Relations website at:  
[http://ri.tupy.com.br/default\\_en.asp?idioma=1&conta=44](http://ri.tupy.com.br/default_en.asp?idioma=1&conta=44)

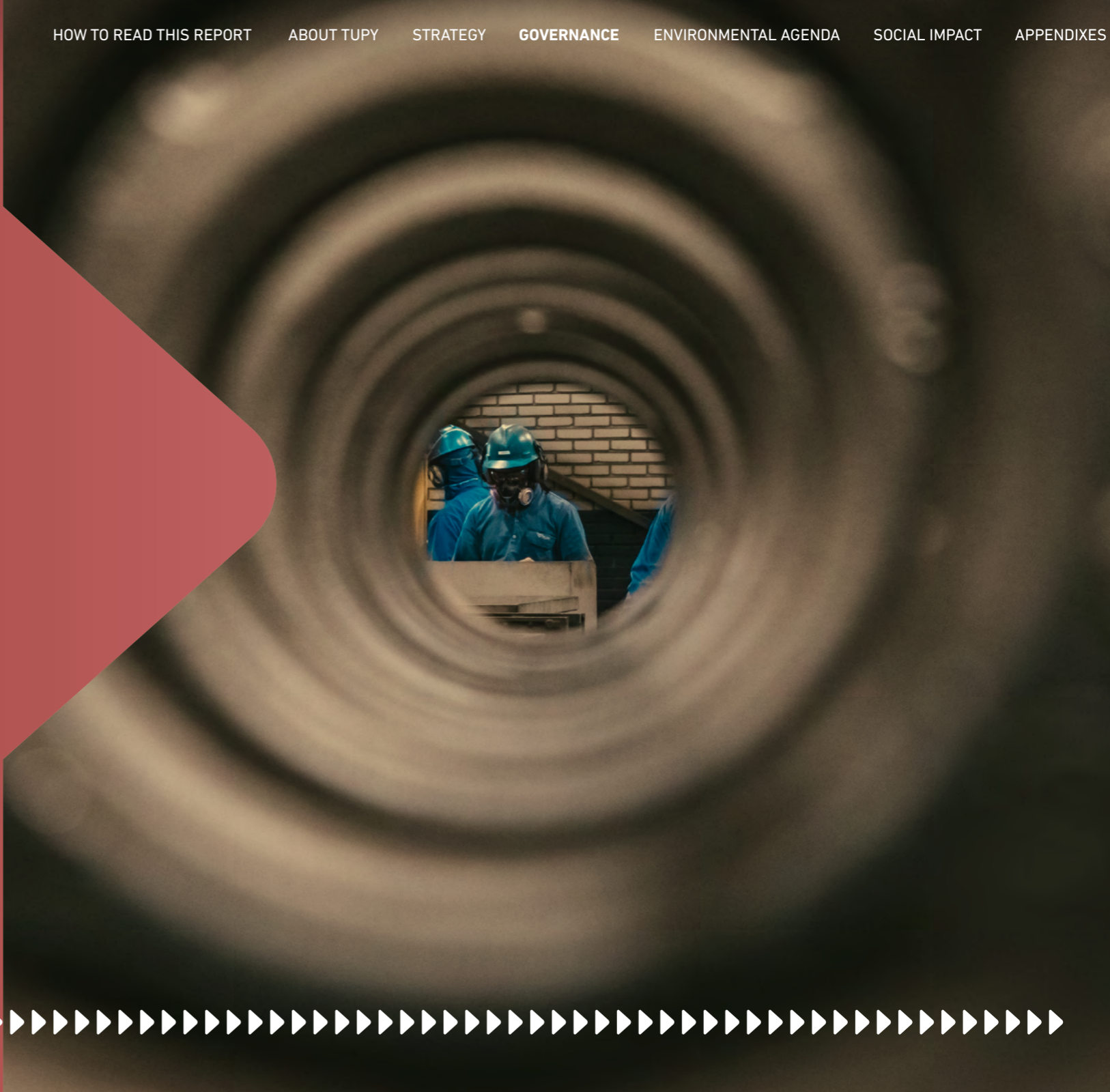
# 3.

## ▶ Governance

IN THIS CHAPTER

> INTEGRITY

> RISK MANAGEMENT



# Our management approach at Tupy is based on a solid foundation of best-practice governance

We believe that a solid, best-practice governance structure is key to delivering strong results and maintaining the excellence that has defined our Company over the years. Within this structure, strategic subject-matter committees play an essential business-management role.

Tupy is a publicly traded company listed on **Novo Mercado**, a listing segment on the Brazilian stock exchange (B3) that requires organizations to uphold the highest standards of governance. Our governance structure consists of a Board of Directors with nine members, three of whom are independent; an Executive Board; an Audit Board; and three committees—a Statutory Audit & Risk Committee, a Governance & People Management Committee, and a Strategy & Innovation Committee—all of which have independent members. **GRI 102-18, 102-22**

The Company’s Bylaws have recently been reformulated to adjust our governance structure for compliance with **Novo Mercado** listing rules. As part of this process, we created a Statutory Audit & Risk Committee—replacing an existing, non-statutory committee—and established Board of Directors responsibility and authority for appointing internal auditors and the governance officer, which in turn report to Senior management.

In 2020, as we navigated the COVID-19 pandemic, we relied upon our values to continue to conduct business in line with the governance practices that have guided our activities in recent years, while developing solutions to tackle the adverse effects from the pandemic (*read more in [Our COVID-19 Response](#)*). This year’s Annual General Meeting was held online. Our Corporate Governance Report was filed on a timely basis—although

the deadline was extended with permission from the Brazilian Securities Commission (CVM)—and received no negative responses.

The Board of Directors also engaged more closely around social initiatives, ensuring they are aligned with our sustainability and institutional relations policies, and closely monitored our support for the pandemic response in communities.

In 2020 we revised the rules of procedure of the Strategy & Innovation Committee, Governance & People Management Committee, Audit & Risk Committee and Audit Board.

Also in the year, the Board of Directors tasked the Governance & People Management Committee with the mission of supporting Management in addressing Environmental, Social, Governance and Data Protection (ESGD) issues. The committee will track indicators, recommend best practices, review decisions



The Governance & People Management Committee has been tasked with supporting Management in addressing Environmental, Social, Governance and Data Protection (ESGD) issues



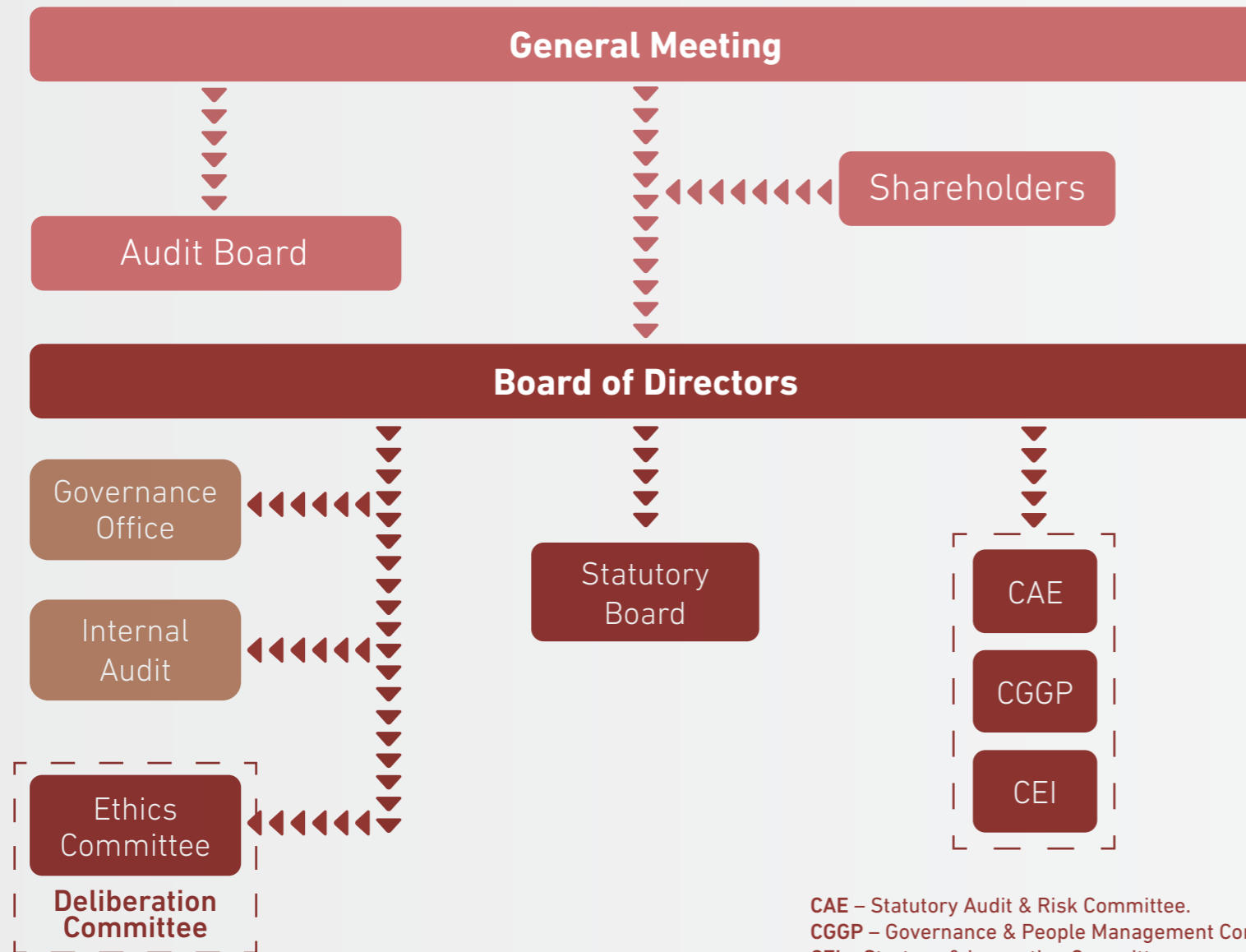
## LEARN MORE

Click [here](#) for information on the composition and biographies of members of our governance bodies

on capital allocation, and provide risk management support. This denotes the importance we attach to these issues, which directly affect our performance and strength as a company, especially in such a rapidly changing technological, environmental, geopolitical, social and economic landscape as today’s. **GRI 102-28**

The Governance & People Management Committee and, ultimately, the Board of Directors, are now more closely and specifically following these issues with senior management, supporting us on our sustainability journey.

**GRI 102-28**

**GOVERNANCE BODIES** GRI 102-18

CAE – Statutory Audit & Risk Committee.  
 CGGP – Governance & People Management Committee.  
 CEI – Strategy & Innovation Committee.

**INSIDE THE STRATEGY & INNOVATION COMMITTEE**

The primary duties of the Strategy & Innovation Committee are to advise the Board of Directors on long-term strategy, and assess industry, technology and consumer trends and opportunities over a horizon beyond 15 years. On a monthly basis, the Committee also assesses ongoing technology projects supporting a low-carbon economy in our value chain. GRI 302-5

Committee members sit on the Board of Directors and Executive Board, and are advised by external consultants to ensure that innovation remains a cross-cutting priority at Tupy.

## ▶ BOARD OF DIRECTORS GRI 102-18, 102-22

The Board of Directors serves as a corporate compass, setting the strategic direction for Tupy, as well as exercising oversight and control of the Company's business activities. The Board's key duties include: developing and revising strategic and operational plans as necessary; approving the high-level organizational structure; assessing the overall performance of the Company and its subsidiaries; approving and appointing and/or removing executives in

subsidiaries, and outlining their duties; preparing proposals for the General Meeting and approving amendments to the Company's Bylaws; deciding on the allocation of income and payment of dividends by the Company and subsidiaries; deciding on the organization and winding down of companies, and mergers, acquisitions and carve-outs; and establishing the limits of authority of the Executive Board for the sale of assets and equity interests.

## ▶ EXECUTIVE BOARD

GRI 102-18, 102-22

The Executive Board represents Tupy and has the following duties: managing the general affairs of the Company; providing direction, coordination and oversight to executives at the Company and its subsidiaries; convening and presiding over Executive Board meetings; ensuring full compliance with the Company's Bylaws and the resolutions of the general meeting and Board of Directors; and repre-

senting the Company both actively and responsibly, in court and otherwise. The members of the Executive Board have authority to enter into contracts and other legal transactions. The Board meets ordinarily on a weekly basis, and special meetings may be held when necessary. Resolutions of the Executive Board are taken by a majority vote, with the CEO having a casting vote in the event of a tie.

### MEMBERS OF THE BOARD OF DIRECTORS<sup>1</sup> GRI 102-22

NAME	TITLE
Gueitiro Matsuo Genso	Chairman
Ricardo Doria Durazzo	Deputy Chairman
Gabriel Stoliar	Independent Member
José Rubens de La Rosa	Independent Member
Ricardo Antonio Weiss	Independent Member
Claudia Silva Araujo de Azeredo Santos	Member
Jaime Luiz Kalsing	Member
José Gustavo de Souza Costa	Member
Paula Regina Goto	Member
Abidias José de Souza Junior	Substitute
Paulo Roberto Evangelista de Lima	Substitute
Silvia Pereira de Jesus Lucas	Substitute

### MEMBERS OF THE EXECUTIVE BOARD GRI 102-22

NAME	TITLE
Fernando Cestari de Rizzo	CEO
Fábio Pena Rios	Vice President, Operations
Ricardo Sendim Fioramonte	Vice President, Commercial
Thiago Fontoura Struminski	Vice President, Finance, Controls and Management, and Investor Relations Officer



In 2021 a dedicated vice president was appointed to manage procurement and logistics

1. In 2020, 22.2% of Board members were women. In the proposed Board composition for 2021-2023, this percentage will increase to 33.3%.

## ▶ **AUDIT BOARD** GRI 102-18, 102-22

As established in the Brazilian Corporations Act, the Audit Board decides on its own order of business and rules of procedure. Its duties include: overseeing Management activities and ensuring compliance with Management's duties under applicable law and the Company's Bylaws; issuing opinions on the Company's Annual Reports to inform deliberations of the General Meeting; reviewing and issuing opinions on the financial statements for each fiscal year; and issuing opinions on proposals submitted by governance bodies to the general meeting.

### **MEMBERS OF THE AUDIT BOARD** GRI 102-22

NAME	TITLE
João Augusto Monteiro	Chairman
Kurt Janos Toth	Member
Nilo José Panazzolo	Member
Benilton Couto da Cunha	Substitute
Eraldo Soares Peçanha	Substitute
Massao Fábio Oya	Substitute

## ▶ **PERFORMANCE ASSESSMENT AND REMUNERATION**

GRI 102-22, 102-35

Since 2014, the Board of Directors has conducted annual self-assessments on independence and responsibility. The assessments address the Board as a body and are conducted by a specialist consulting firm. In addition to the aspects above, the assessment scope covers the structure and the general dynamics of Board activities. Advisory committees have also been assessed as part of this process since 2015.

The Governance & People Management Committee's scope of duties also includes periodic benchmarking of Tupy's organization-wide governance structure against other players in the market. Assessment results are reviewed by the Board of Directors and action is taken to address any significant gaps.

The remuneration policies and practices for governance bodies, the Audit Board and advisory committees are reviewed and approved annually by the Board of Directors and Governance & People Management Committee. These policies aim to: attract, retain and engage talents by ensuring remuneration is competitive with the market and aligned with the Company's needs; ensure

executives' compensation is consistent with the scope and complexity of their responsibilities, their requisite skills, and the impact their leadership has on organizational decisions over time, and on stakeholders; and recognize short, medium and long-term contributions to business growth and value creation in line with the goals set by management and shareholders.

The Board of Directors receives fixed remuneration. The Statutory Executive Board receives 50% fixed and 50% variable remuneration. Out of the variable component, 26% consists of Long Term Incentive Plan (LTIP) payments (long term), and the remaining 74% consists of Variable Compensation Program (VCP) payments (short term). Variable compensation percentages vary with results of operations in each period, as a way of allowing executives to share in risks and results.



**Our remuneration policies and practices are part of a talent management approach that recognizes and rewards competitiveness**

# Integrity

GRI 103|206



## A dedicated compliance function works to foster an ethical culture at Tupy

Our organizational structure ensures the independence of our corporate governance bodies, which continued fully functional throughout 2020. Ethical business conduct at all levels of the organization is supported by the Internal Audit, an Ethics & Business Conduct Committee, a Whistleblowing Hotline, our Code of Ethics and Business Conduct, and policies on key topics.

Governance activities at Tupy are guided by our culture and values. Through a now-expanded whistleblowing channel, our Ethics & Business Conduct Committee, and market surveys, we have enhanced compliance and responded effectively to incidents.

After creating a dedicated compliance function reporting directly to the Board of Directors, these practices—which are currently managed jointly by multiple functions—will be enhanced by training on and improvements in the process of investigating reported misconduct.



## CODE OF CONDUCT

GRI 102-16, 102-17, 103|206

In 2019 we revised our Code of Ethics & Business Conduct to include not only theoretical concepts and principles but also practical, detailed guidance on ethics management at Tupy.

The Code also lists Tupy's ten ethical commitments, and provides guidance on competition and antitrust laws in the section

on Compliance with Laws and Regulations, Policies, Rules and Contracts.

We reject any practices which could be interpreted as anti-competitive, monopoly or cartel practices or practices that are otherwise in violation of Brazilian and international laws and regulations. These issues are also addressed in our Conflict of Interests Standard, especially as it relates to dealings with external stakeholders.

## WHISTLEBLOWING CHANNEL

GRI 102-17, 103-2|103|205|406

Tupy has a public whistleblowing channel through which stakeholders can submit reports online, in person on the Company's premises, by email, and by telephone. Whistleblowers can use this channel to submit anonymous reports on misconduct in Portuguese, Spanish and English. All reports are kept confidential.

To ensure independence, the channel is managed by a specialized firm that receives, processes and communicates to the Company the reports it receives. Reports are classified by type of incident and using a criticality matrix created by the Ethics & Business Conduct Committee and approved by the Audit & Risk Committee. The independent firm then forwards (and sends an automatic email containing) the case report to the Ethics Management Office, which reports to the Human Resources Department. Cases are then submitted for investigation by focal points who have been duly trained on conducting investigations in accordance with established guidelines. Reports concerning fraud and related matters are submitted exclusively to the Internal Audit for investigation.

Disciplinary action taken by the Ethics Committee is based on a Disciplinary Code established in January 2018.

The Ethics & Business Conduct Committee reviews reports and, where necessary, initiates an investigation. The Ethics Committee is responsible for determining whether a report is substantiated, and establishing any disciplinary action to be taken. Whistleblowing information is reported to the Audit & Risk Committee on a monthly basis.



**Disciplinary action taken by the Ethics Committee is based on a Disciplinary Code**





## ▶ REPORT HANDLING WORKFLOW

**1.** The focal point documents the findings from the investigation in the Ethics System

**2.** The Ethics Management Office submits the report to the Ethics Committee for review

**3.** The Ethics Committee classifies the report as either high or critical priority (N1) or medium or low priority (N2), and by country (Brazil or Mexico)

**4.** The Ethics Committee decides on any disciplinary action for the individuals involved

## GOVERNANCE POLICIES

Alongside our governance bodies, a set of related policies provide essential guidance on the conduct expected of our employees and other stakeholders.

These include policies and standards on risk management and internal controls, audit engagements, Health, Safety, Environment, Quality and Social Responsibility

(HSEQSR) management, social investment, appointment of Board members, insider trading, related-party transactions, and conflicts of interests.

The backbone document in this policy framework is the Tupy Code of Ethics & Business Conduct.

## GRIEVANCE MECHANISMS GRI 103-2

GRIEVANCES	2018	2019	2020
Number of grievances about human rights impacts filed through grievance mechanisms	404	541	283
Number of grievances addressed	404	541	283
Number of grievances resolved	322	606	270
Number of grievances filed prior to the reporting period that were resolved during the reporting period	57	139	69



## LEARN MORE

Read the policies that make up our governance framework [here](#)

**ALIGNED WITH BEST PRACTICE** GRI 102-12, 102-13

We have reaffirmed our values and positioning by subscribing to international initiatives and commitments that can drive transformation.

In addition, we periodically audit and report on compliance with the Brazilian Code of Corporate Governance. In 2020 there were no negative findings from the audit, with all items either fully or partially compliant.

We regularly benchmark best practices in the market and at peer companies through our

Governance & People Management Committee, in order to build excellence in our governance structure.

We also keep abreast of best practice through our membership of industry associations. In Brazil, we are members of: the Joinville Business Association (ACIJ); the Santa Catarina State Industry Federation (FIESC); the São Paulo State Industry Federation (FIESP); the Brazilian Industry Confederation (CNI); the Brazilian Automotive Aftermarket Industry Association (SINDIPEÇAS/ABIPEÇAS); the Brazilian Foundry Association (ABIFA); and the Brazilian Institute for Cor-

porate Governance (IBGC). In Mexico, we are members of: the Employers Confederation of the Mexican Republic (COPARMEX); the Mexican Manufacturing Industry Chamber (CANACINTRA); and the National Auto Parts Industry Association (INA).

# Risk management

To ensure preparedness for emerging challenges in our value chain, we monitor potential impacts and risks across different dimensions—including the economic, environmental and social dimensions—with our Statutory Audit & Risk Committee playing an important role in strengthening internal controls within the Company.

Identified risks include risks to the Company, involving lead times, equipment, and other aspects; risks to our value chain; risks to our industry, such as regulatory issues; and other risks described in further detail [here](#).

Another important tool in the risk management and internal controls process is our Conflict of Interests Standard, which aims to

raise employee awareness about the importance of preventing personal interests from interfering with their duties within the Company. Employees are required to sign an affirmation and a declaration of potential or existing conflicts of interest.



Impacts and risks are monitored across the economic, environmental and social dimensions





# 4.

## ▶ Environmental agenda



### IN THIS CHAPTER

- > INTERNAL PROCESS MANAGEMENT
- > ENVIRONMENTAL INVESTMENTS
- > PERFORMANCE INDICATORS





Tupy has ongoing initiatives to reduce natural resource use and eliminate or minimize impacts on the environment

## ▶ INTERNAL PROCESS MANAGEMENT

GRI 103-2, 103-3

Tupy's Environmental Management System (EMS) has been certified to ISO 14001 since 2001. The EMS supports mitigation and control of aspects affecting Tupy's operations, and continuous improvement of production processes in order to minimize environmental impacts. In 2020, although we reformulated our priorities in response to the COVID-19 pandemic, our environmental procedures and investments across different fronts were not affected.

Through the EMS, we monitor air emissions and air quality; groundwater, surface water and recycled water; noise levels; waste segregation and disposal; and legal and environmental permits applicable to Tupy and our suppliers.

One of the most important ways we contribute to environmental stewardship is inherent to our operations—the most significant raw material in our production process is scrap, including both manufacturing scrap, a superior material, and end-of-life scrap from products that have been disposed of.

In our value chain, we strive to reconcile economic development with environmental preservation. As a Company, we can contribute through initiatives to mitigate emissions in the value chain, by developing technology to support CO<sub>2</sub> emissions reductions in the industries where we operate, and by advancing a circular economy.



An air quality monitoring system

Tupy's operations are supplied with a daily volume of 1,600 metric tons of scrap metal (*read more in [Production process](#)*), which we process into high-complexity parts and components. This illustrates not only our advanced technological capabilities but also

the potential we have to support sustainable development.

The use of scrap metal in replacement of natural resources is consistent with the circular-economy principle of reducing waste

and natural resource use. Plastic packaging from some customers is also returned for re-use in our operations (downstream). **GRI 306-2**

The Environment Department, which is a part of our governance structure, reports weekly to the Executive Board on environmental performance indicators, including air quality indicators. Also on a weekly basis, Manufacturing managers review performance indicators and agree on initiatives to improve performance and address any deviations. As part of the EMS routine, monthly meetings are held to review all environmental indicators with the Executive Board.

Air emissions are controlled using bag filters, wet filters and gas scrubbers. The continued efficiency of these systems is ensured through investments under Preventive Maintenance Plans.

Approximately ten years ago, an expansion of our on-site water treatment plants enabled a fully closed-circuit process in which 100% of industrial and sanitary wastewater is recycled back into the production process. In addition to environmental benefits, this also delivered cost savings by reducing our water withdrawal requirement. In addition, new buildings have been designed with rainwater harvesting systems that supply water for vehicle washing and some production processes.

Tupy also manages the solid waste materials generated by production operations, in a process that includes segregation, collection, identification, storage and transportation.

**ENVIRONMENTAL INVESTMENTS**

Since the EMS was implemented in 2001, we have invested more than R\$ 210 million in environmental improvements, equipment and related works.



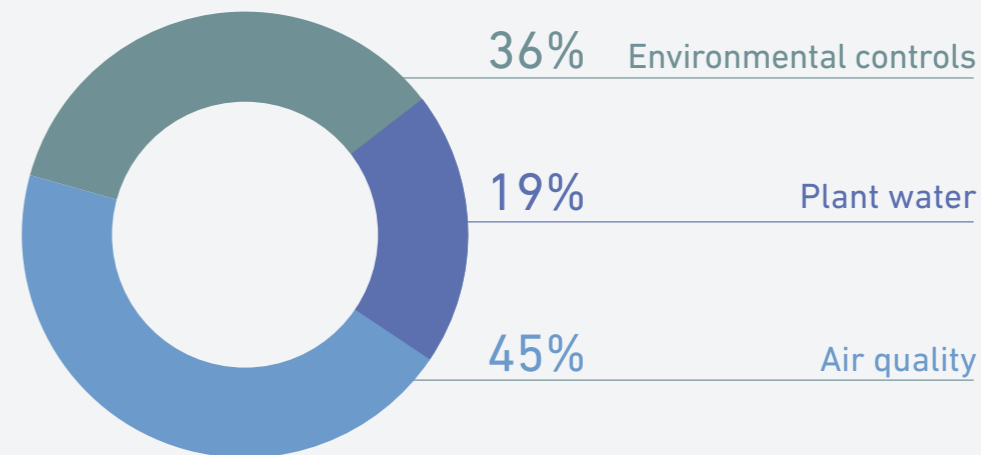
A protected mangrove area managed by Tupy

**▶ BIODIVERSITY**

Tupy manages approximately 5,200 hectares of protected forests in the locations where we operate. An assessment in 2020 found that, of the total area, 80% is covered by native forests, 9% by reforestation and 11% by Protected Areas.

The forests we manage represent a carbon stock of 1.8 million metric tons of CO<sub>2</sub>.

**▶ INVESTMENTS IN BRAZIL AND MEXICO IN 2020\***



\*The graph shows investments in improvement programs across these three fronts.

## CIRCULAR ECONOMY

Tupy is an important link in the circular economy chain—more than 90% of the raw material used in our production process is scrap metal. We process approximately 500,000 metric tons per year\* of scrap into high value-added, high-tech products. In addition, approximately 75,000 metric tons per year\* of waste is processed into coproducts that are used in other value chains. For example:

- Approximately 3,500 metric tons of granulated slag from our production process becomes an important mineral additive for cement manufacturing;
- Chip from machining galvanized cast-

iron pipe fittings is sold to the automotive and steelmaking industry, creating value in separate value chains—approximately 170 metric tons are produced each month;

- Iron briquettes are produced at on-site briquetting facilities using iron chip generated in our machining operations;
- Zinc ash and sludge are recycled and return to the process as a raw material.

\*On average over the previous two years (2019 and 2020).



## ▶ PERFORMANCE INDICATORS

### EMISSIONS **GRI 103|305**

Monitoring and mitigating emissions is integral to Tupy's strategy. Emissions are monitored through annual measurements of fixed-source emissions and daily readings from monitoring equipment (Hi-vol). Emissions are also monitored 24/7 by cameras.

A dedicated team is responsible for maintaining air emissions control systems and addressing any deviations.



An air emissions control system

### OTHER SIGNIFICANT AIR EMISSIONS<sup>1,2</sup> (t) **GRI 305-7**

	2018		2019		2020	
	t/YEAR	t /t PRODUCED	t/YEAR	t /t PRODUCED	t/YEAR	t /t PRODUCED
Volatile Organic Compounds (VOCs) <sup>3</sup>	235	0.00036	22	0.00003	217	0.00051
Particulate Matter (PM)	1,543	0.00238	1,244	0.00192	530 <sup>4</sup>	0.00125

1. In Brazil, emissions of SO<sub>x</sub>, NO<sub>x</sub>, Persistent Organic Pollutants (POP) and Hazardous Air Pollutants (HAP) were not monitored in 2020 as they are not a requirement under our environmental operation license. In Mexico, emissions of SO<sub>x</sub>, NO<sub>x</sub>, POPs, HAPs and VOCs were not monitored.

2. Emissions data in Brazil are for the Joinville operation, and data in Mexico are for the Saltillo and Ramos operations. The Mauá plant (Brazil) is currently not generating emissions as its machinery and stacks have been shut down.

3. VOC sampling in 2018, 2019 and 2020 was conducted using different reading protocols, but the same methodology.

4. The reduction primarily reflects equipment curtailment as a result of the pandemic.

## CO<sub>2</sub> EMISSIONS

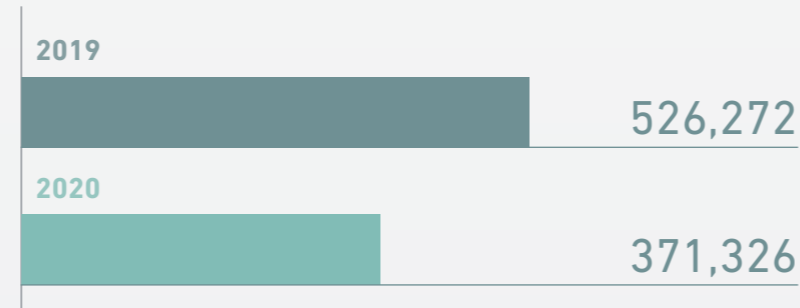
Tupy has quantified and reported on significant greenhouse gas emissions and their sources in our Brazil operations for the past ten years, and in our Mexican operations since 2019.

Emissions were reduced in 2020 compared to the previous year due to lower production volumes as a result of the pandemic. **GRI 305-1**

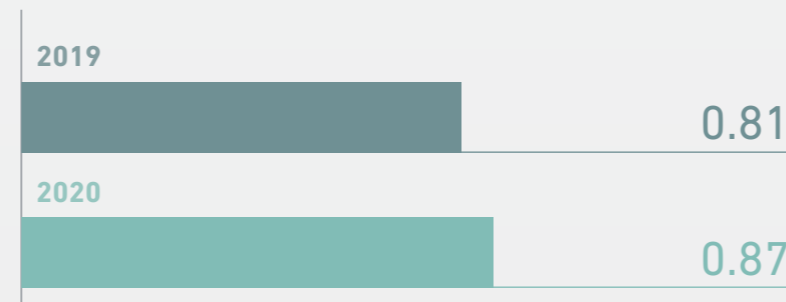


### DIRECT (SCOPE 1) GHG EMISSIONS<sup>1</sup> (tCO<sub>2</sub> EQUIVALENT) **GRI 305-1**

tCO<sub>2</sub>eq/year



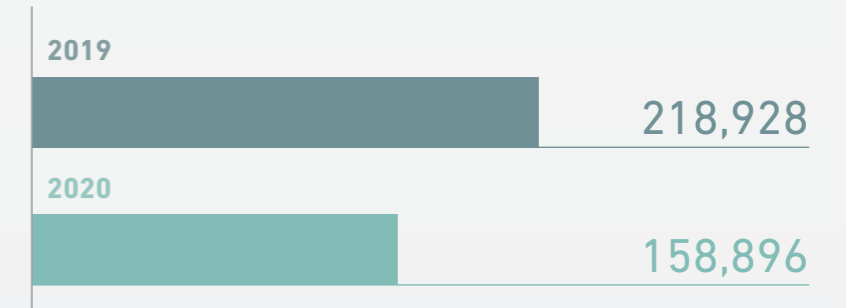
tCO<sub>2</sub>eq /t produced eq



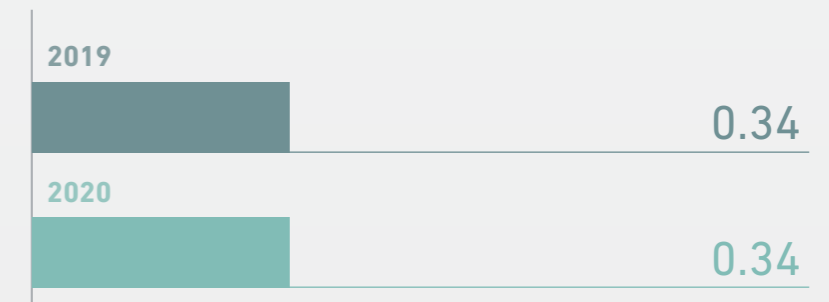
1. The following gases have been included in the calculations: CO<sub>2</sub> (carbon dioxide); CH<sub>4</sub> (methane); N<sub>2</sub>O (nitrous oxide); and HFCs (hydrofluorocarbons). Data in Brazil is for the Joinville operation only, and data in Mexico is for the Ramos and Saltillo operations. The plant in Mauá accounted for less than 1% of emissions and was therefore excluded.

### ENERGY INDIRECT (SCOPE 2) GHG EMISSIONS<sup>1</sup> (tCO<sub>2</sub> EQUIVALENT) **GRI 305-2**

tCO<sub>2</sub>eq/year



tCO<sub>2</sub>eq /t produced eq



1. The following gases have been included in the calculations: CO<sub>2</sub> (carbon dioxide); CH<sub>4</sub> (methane); and N<sub>2</sub>O (nitrous oxide). Data in Brazil is for the Joinville operation only, and data in Mexico is for the Ramos and Saltillo operations. The plant in Mauá accounted for less than 1% of emissions and was therefore excluded.



**SOLID WASTE** [GRI 103|301|306](#)

All waste materials generated in our production operations and facilities are mapped and assessed to identify value creation opportunities; in 2020, we generated revenues of R\$ 13.5 million from the sale of waste materials in Brazil and Mexico.

Tupy has invested in initiatives to regenerate spent foundry sand at its plants. In our Joinville (SC) operation, virtually the entire volume of the material from core making—around 4,000 metric tons per month—is processed at two on-site regenerators. We are also actively exploring solutions for reuse of sand disposed of in the shakeout process.

In Mexico, significant progress has been made to increase regeneration of spent foundry sand; four regenerators are now in operation, regenerating 18,000 metric tons of foundry sand per month. In 2020, foundry

sand consumption decreased by 25% and regeneration volumes increased by 32% compared to 2019.

Waste Management Plans establish controls and requirements on managing all waste materials in accordance with the local laws and regulations of each country where we operate. In our manufacturing operations, initiatives are in place to reduce waste generation and disposal in landfills. [GRI 306-1, 306-2, 306-3, 306-4, 306-5](#)

Waste management performance is measured using key performance indicators (KPIs) including waste volumes generated, method of disposal, conformity levels in supplier screening audits, and compliance with legal requirements. These indicators are reviewed periodically in Environment Department meetings and in meetings with the Executive Committee. We also conduct environmental inspections in our operations to ensure that Waste Management Plans are being properly implemented. [GRI 306-1, 306-2, 306-3, 306-4, 306-5](#)

Waste volumes are directly linked to production volumes. Significant process inputs and raw materials—which can generate substantial impacts—and process waste are managed under specific procedures. Landfilled contaminated waste volumes are negligible compared to total waste volumes, at approximately 0,3%.

[GRI 306-3](#) [GRI 306-1](#)

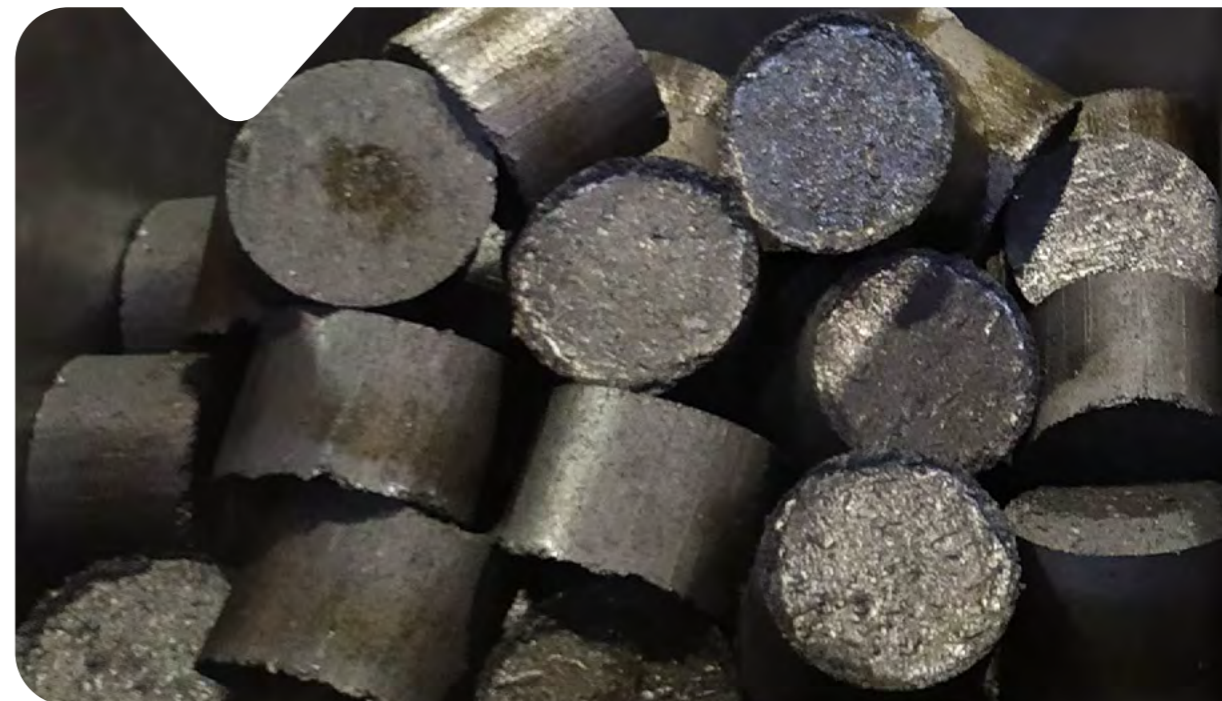
All waste materials disposed of off-site are sent to suppliers that are licensed by the appropriate environmental authorities and

have been previously audited and vetted by the Environment department. [GRI 306-2](#)

In 2020 we recycled approximately 50% of total waste volumes. In addition to spent foundry sand as previously described, reuse of steel abrasives (a material used in the finishing process) increased by 680% from 267 metric tons in 2018 to 2,092 metric tons in 2020, following implementation of systems for screening waste materials generated in the grit blasting process. [GRI 306-3, 306-4](#)



Tupy works to maximize on-site reuse of waste materials. Approximately 85% of waste materials return to the production process, avoiding the need for off-site disposal and the use of non-renewable natural resources



**WASTE GENERATED BY COMPOSITION<sup>1</sup> (t) GRI 306-3**

	2018	2019	2020
Category	Volume gener- ated	Volume gener- ated	Volume gener- ated
Waste materials reused on site (steel abrasives)*	267	2,107 <sup>2</sup>	2,092
Waste materials recycled/regenerated on site (sand, rejects, scrap, iron swarf)*	516,253	536,157	452,319
Waste materials sent for off-site recycling/reuse*	76,408	76,878	64,558
Waste materials sent for off-site recycling/reuse/copro- cessing**	9,294	8,962	7,447
Waste materials sent to landfills*	786,569	816,545	452,189
Waste materials sent to landfills**	3,838	4,714	3,005
Waste materials kept in temporary storage on site*	0	0	30,000
<b>Total</b>	<b>1,392,629</b>	<b>1,445,363</b>	<b>1,011,611</b>
<b>Total waste materials generated per metric ton of pro- duction equivalent</b>	<b>2.15</b>	<b>2.23</b>	<b>2.38</b>

Note: the categories used reflect previously established controls based on the method of disposal and waste classification. Waste materials sent for treatment at effluent treatment plants were not included in the calculations as they are deemed to be effluents.

1. Waste data is for our operations in Joinville (Brazil), Saltillo and Ramos (Mexico). The Mauá plant in Brazil accounted for less than 1% of volumes and was therefore excluded.

2. See the previous page for details on changes.

\*Nonhazardous waste.

\*\*Hazardous waste.

**WASTE DIVERTED FROM DISPOSAL<sup>1</sup> (t) GRI 306-4**

	2018	2019	2020
Non-hazardous waste materials sent for off-site recycling/reuse	76,408	76,878	64,558
Hazardous waste materials sent for off-site recycling/reuse/coprocessing	9,294	8,962	7,447
Waste materials reused on-site (steel abrasives)	267	2,107	2,092
Waste materials recycled/regenerat- ed on site (sand, rejects, scrap, iron swarf)*	516,253	315,079	452,319
<b>Total</b>	<b>602,222</b>	<b>403,026</b>	<b>526,417</b>

1. Waste data is for our operations in Joinville (Brazil), Saltillo and Ramos (Mexico). The Mauá plant in Brazil accounted for less than 1% of volumes and was therefore excluded.

\*Nonhazardous waste.



## LEARN MORE

Additional waste data is available  
in the [Appendices/GRI Supplement](#)

**RECYCLED INPUT MATERIALS USED** GRI

103|301, 301-2

In 2020 we reached an important milestone of 99% of metal feedstocks derived from recycling, further reducing consumption of nonrenewable natural resources (iron ore).

cells; and 2) the use of briquettes produced from coke fines (fine particles segregated before the coke is fed into the furnaces) in the melting process.

Recycled coke volumes have also shown an upward trend in the previous three-year period, reflecting two factors: 1) higher volumes of coke from dismantled aluminum smelter

**PERCENTAGE OF RAW MATERIALS OR RECYCLED MATERIALS USED IN THE PRODUCTION OF PRODUCTS AND SERVICES<sup>1</sup> (%)** GRI 306-5

MATERIAL	2018	2019	2020
Metal materials (scrap, returns and briquettes)	95	99	99
Sand	25	31	49
Catalyst	45	44	31
Coke	2	5	13

1. Data is for our operations in Joinville (Brazil), Saltillo and Ramos Arizpe (Mexico).



More than 99% of the metal materials used in our production process are recycled



**ENERGY EFFICIENCY** GRI 103|302

Tupy has an Energy Efficiency Group, with representatives from the Maintenance Engineering and Procurement departments, which plays an important role in identifying opportunities for energy savings and implementing continuous improvement projects.

Another way we work to improve energy efficiency is by replacing inefficient electrical equipment with more energy-efficient options.

Electricity consumption is monitored both by energy source—coke, natural gas, LPG and diesel—and by quantity consumed.



**ENERGY CONSUMPTION WITHIN THE ORGANIZATION (GJ)** GRI 302-1

**TOTAL ENERGY CONSUMPTION**

	2018 <sup>1</sup>	GJ	GJ/t produced
<b>Nonrenewable fuels</b>		5,604,275	8.65
<b>Renewable fuels</b>		1,352,588	2.09
<b>Total</b>		6,956,863	10.73
	<b>2019</b>	GJ	GJ/t produced
<b>Nonrenewable fuels</b>		5,838,690	9.02
<b>Renewable fuels</b>		1,396,678	2.16
<b>Total</b>		7,235,368	11.18
	<b>2020</b>	GJ	GJ/t produced
<b>Nonrenewable fuels</b>		4,232,498	9.95
<b>Renewable fuels</b>		1,114,792	2.62
<b>Total</b>		5,347,290	12.56

1. Data on nonrenewable fuels excludes LPG consumption in our operations in Mexico.



▶ ENERGY CONSUMPTION WITHIN THE ORGANIZATION (GJ) GRI 302-1

Electricity

2018	2,908,035
2019	3,153,330
2020	2,439,335

Total electricity/t of product equivalent

2018	4.49
2019	4.87
2020	5.73



Members of the Energy Efficiency Group in a switchgear room



# 5.

## ▶ Social impact

### IN THIS CHAPTER

- > PEOPLE MANAGEMENT
- > HEALTH AND SAFETY
- > CUSTOMERS
- > SUPPLIERS
- > COMMUNITIES





Our products are used in essential industries that contribute directly to better living standards and higher life expectancy

Both our value chain and our product portfolio put us in a position to support social development. Our products are used in industries—such as agriculture, infrastructure, power generation and freight transportation—that help to improve people’s lives and are important in reducing inequalities.

Our operations are recognized not only for their contribution to economic progress but also for initiatives that help to share Tupy’s prosperity with surrounding communities by supporting education, social and other programs.

In 2020 our social support became all the more important in helping communities respond to the COVID-19 pandemic. During this period, our role in and engagement with local communities were enhanced through actions to strengthen prevention and healthcare capabilities.

### Our workforce<sup>1</sup>

# 13,622

people are employed in our operations and offices



1. The total headcount includes both employees and interns and apprentices, who are treated, and receive the same benefits, as employees.

# People management

GRI 103|400

Taking care of people has always been a priority for Tupy. In 2020, this was strengthened further in our pandemic response, in which we implemented all appropriate protocols and solutions to protect the health of our employees.

Another people-management priority in the period was preserving jobs in spite of the

COVID-19 crisis. In Brazil, we joined the No Jobs Lost movement, an initiative to support society during one of the most testing periods in the last decades. The manifesto was signed by 4,000 companies that all committed to not lay off workers as a result of the pandemic. At Tupy, laid-off employees received allowances in proportion to their salaries. All employees were guaranteed at



least 75% of their regular income. These practices were consistent with government policy measures that were adopted in the period. Our pandemic response was led by a dedicated pandemic committee that monitored indicators and developments to inform decisions. **GRI 203-2**

Our management approach is guided by the values expressed in the Tupy Code of Ethics & Business Conduct and in our internal standards, which explicitly prohibit discrimination on any basis (*read more in Diversity*).

Managing the organizational climate is another strategic priority at Tupy. A group of internal human resources consultants engages closely with our different departments and helps to address teams' specific needs. We also have a system for monitoring organizational climate reports, which allows HR consultants and the leadership team to keep abreast of climate-related issues.

### WORKFORCE PROFILE

**GRI 102-8, 103|401**

Most activities at Tupy are performed by direct employees. Activities are outsourced only where tasks require a high level of expertise and are unrelated to our business. In

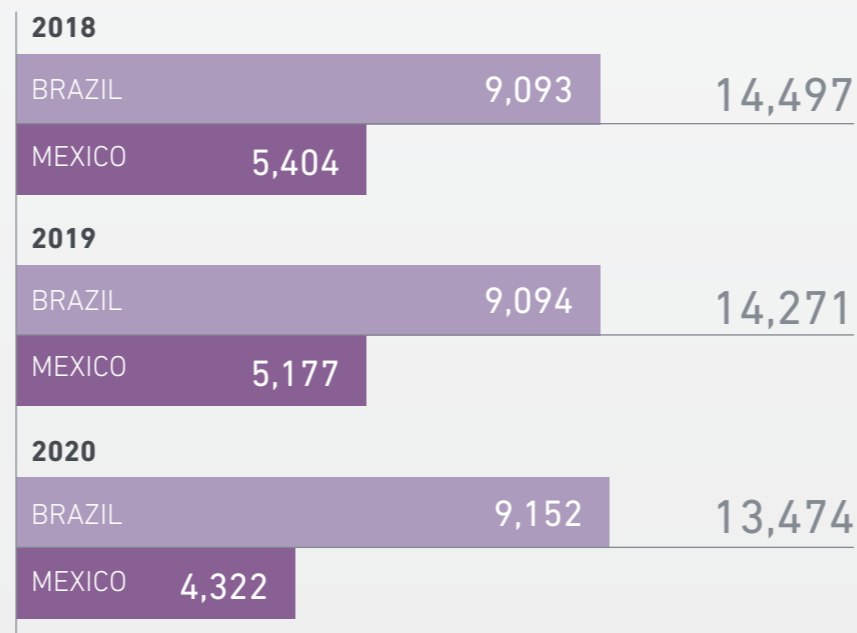
these cases, we engage the services of specialized firms such as catering, freight transportation and security services companies.

Our operations are relatively unseasonal, and therefore Tupy's average workforce count tends to remain stable over time.

Currently, 100% of employees are covered by collective bargaining agreements in Brazil, and 90% in Mexico. **GRI 102-41**

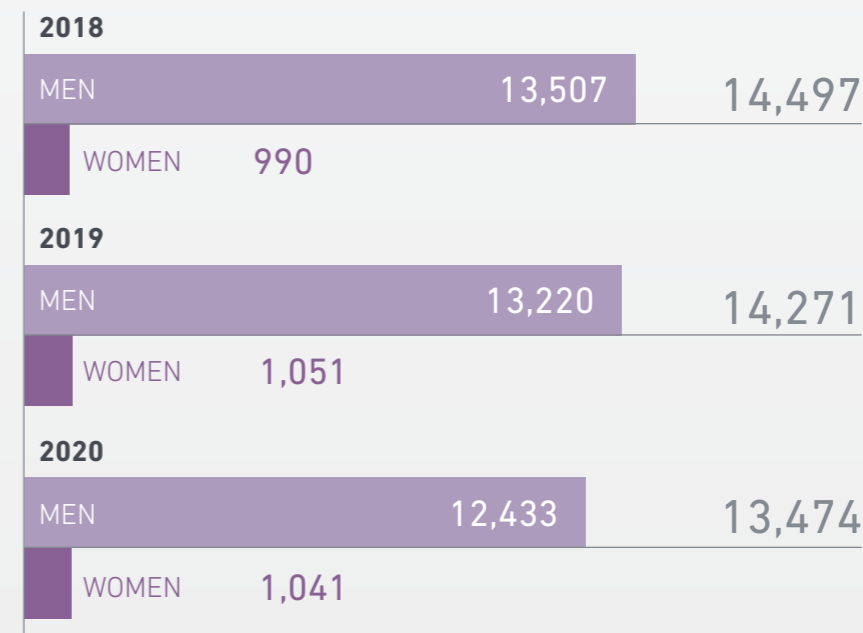
### ▶ INFORMATION ON EMPLOYEES **GRI 102-8**

#### ▶ PERMANENT CONTRACT<sup>1</sup> AND REGION **GRI 102-8**



Note: as per GRI guidelines, trainees, interns and apprentices are not included.  
1. We have no temporary employees.

#### ▶ PERMANENT CONTRACT<sup>1</sup> AND FULL TIME<sup>2</sup>, BY GENDER **GRI 102-8**



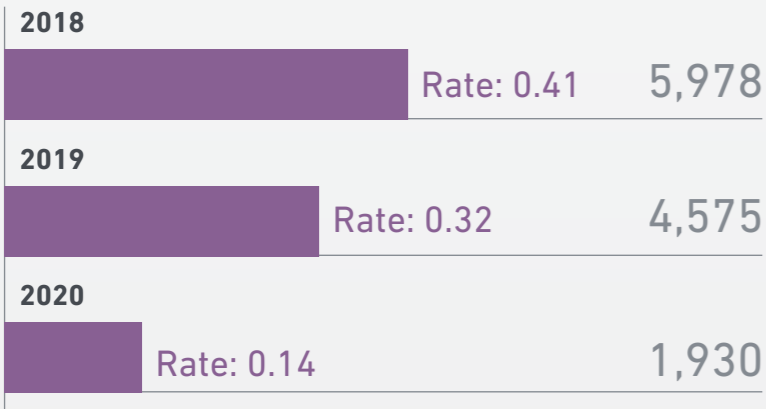
Note: as per GRI guidelines, trainees, interns and apprentices are not included.  
1. We have no temporary employees.  
2. We have no part-time employees.





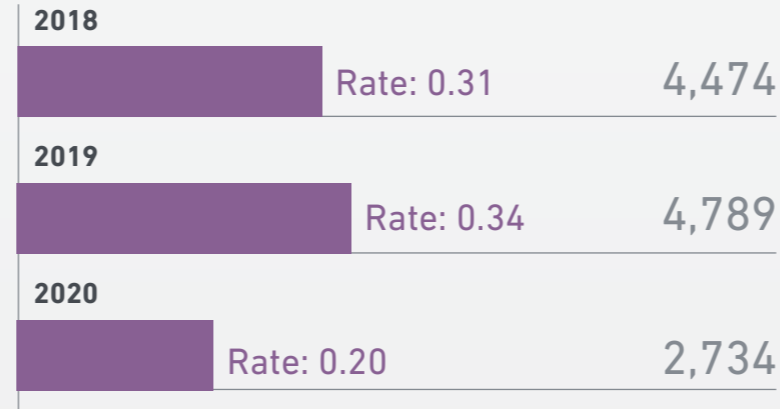
### ▶ NEW HIRES

GRI 401-1



### ▶ TURNOVER

GRI 401-1



## + LEARN MORE

Additional employee profile data is available in the [Appendices/GRI Supplement](#)

## TRAINING AND DEVELOPMENT

GRI 103|404

Learning and innovation are among our values at Tupy. Our history as a Company is intertwined with the history of education in the city where Tupy was founded and is headquartered. This remains an important enabler today, supporting our regulatory training activities, the development of the skill sets needed to meet customers' quality requirements, continuous innovation, and reskilling.



We actively identify any skills gaps for each activity, and provide the necessary training. We also develop employee skills through leadership training, academic technical training, and department-specific training programs. **GRI 404-2**

The importance we attach to employee development and capacity building is reflected in our robust training infrastructure. Our training venue in Brazil, first opened in 1975, is now a two-story facility with two auditoriums seating more than 600 people. The venue is used for technical, behavioral and technological training, as well as to host lectures. In Mexico we have a training venue with a capacity for approximately 300 people, and the training infrastructure is continuously improved to support ongoing employee and organizational development.

In 2020, a program called *ImpulsaT* was launched in Mexico to accelerate the careers of young university graduates. In 2021, the

first class of employees will receive training in Mexico in an Industrial Process Engineering course administered by the University of Carolina, as part of an effort to continuously expand employee skills in response to operational requirements.

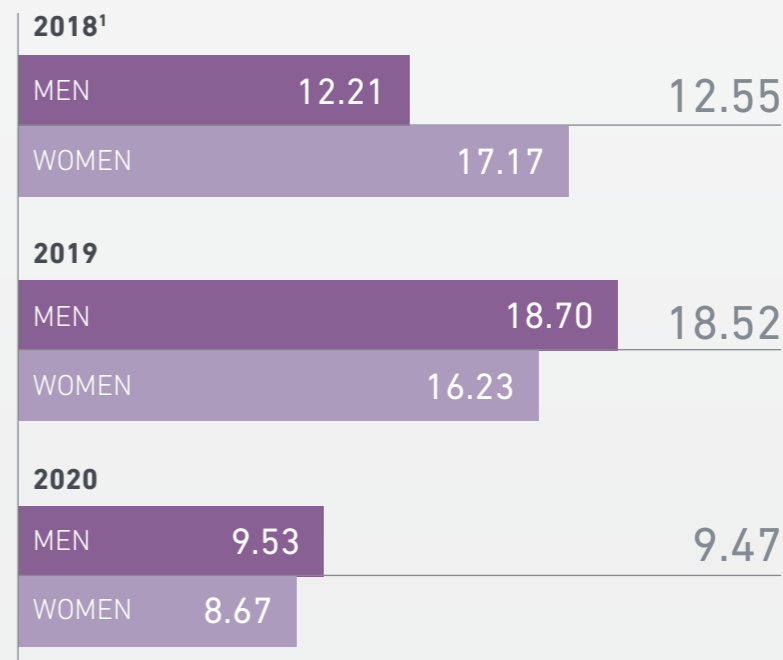
Another important program is our Foundry School, which has two fronts: a training school offering a 50-hour course taught by in-house specialists; and a Tupy-sponsored two-year technical training course in metallurgy developed in a collaboration with the Industrial Training Service (SENAI) in Joinville, which has already trained 55 students.

Between 2019 and 2020, we administered a training program in Brazil as part of an effort to help prepare youth for the job market. In an intensive learning program, participants were actively involved in and even led real-world projects, and participated in lectures, training and mentoring. All participants were ultimately hired, and in 2021 a similar program will be launched in both Brazil and Mexico.

Tupy has also joined the Santa Catarina for Education movement, which aims to improve literacy and provide minimum schooling to all workers. We support the initiative by providing venues and funding for primary and secondary education schools. Working with SESI,

we also provide access to free technical education for youth and adults in Joinville, including both employees and community residents. In 2020, 141 students, including 33 employees, received training as part of this program. **GRI 404-2**

**AVERAGE HOURS OF TRAINING PER YEAR PER EMPLOYEE GRI 404-1**



Note: in 2020, the impacts from the COVID-19 pandemic on production operations, the initial limitations on on-site activities, and the required adaptations in practical training affected overall training hours. However, all training programs were maintained.

1. The Saltillo and Ramos Arizpe plants were not included in 2018.



Our history is intertwined with the history of education in the city where Tupy was founded

**PERFORMANCE ASSESSMENT** GRI 404-3

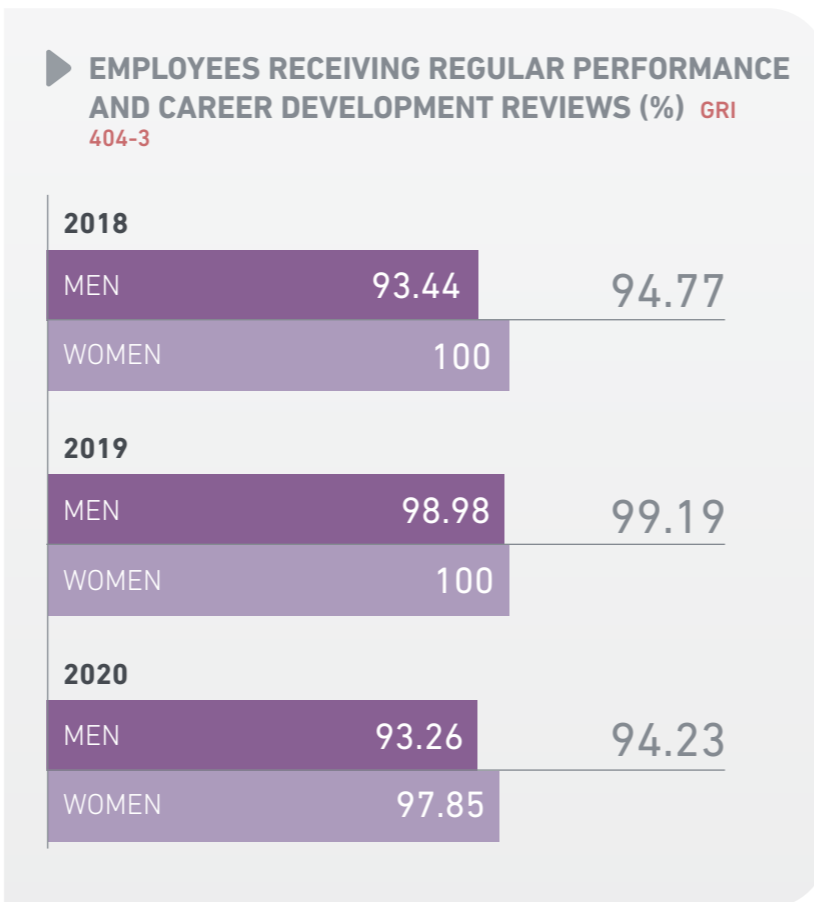
Performance assessment is a long-standing practice at Tupy. Employees are assessed annually on the extent to which they have achieved set goals and demonstrated expected behaviors. The process uses a democratic approach in which employees have the opportunity to agree with their leaders on goals, and assess themselves in the two assessment dimensions.

Tupy employees are given preference in filling vacancies, as established in our Recruiting Standard, while critical positions are filled under a succession plan.

All human resources processes are managed by a people management system, and data compiled from the system informs related actions.



Employees are assessed annually on goals and behaviors, in a process based on open communication with their leaders and self-assessments



**DIVERSITY** GRI 103|405|406

We have worked to foster harmonious relationships across generations, harnessing the knowledge and experience of our senior employees while also bringing the best out of our younger talents hired through trainee, apprentice and internship programs and partnerships.

Our compensation policy is based on the level of responsibility and competence, with no compensation disparity across any classes.

GRI 405-2

In our diversity efforts, we have increasingly achieved progress on gender equity in leadership positions. In terms of ethnic diversity, we are proud of our efforts to integrate people of 21 different nationalities in our workforce, through cultural inclusion initiatives such as events and localized communications in different languages. **GRI 203-2**

One-off initiatives are also implemented to address aspects such as ethnicity, women employees, and PwDs (People with Disabilities). The HR department continually assesses the level of inclusion of minorities in our workforce through climate and career assessments, and takes concrete action to promote integration. The Ethics Committee and other governance bodies also promote a culture of inclusion by recommending and eliciting reports on actions and indicators.

Tupy's approach to managing non-discrimination is based on: our Code of Ethics &

Business Conduct, which establishes the ethical principles that all employees and business partners are expected to adhere to; our Disciplinary Code, which outlines disciplinary action applicable for violations of our Code of Ethics & Business Conduct; and our values—People; Health and safety; Economic excellence; Environment and communities; Customer orientation; Integrity; Commitment; Communications; and Learning and innovation (*read more in the section, [Whistleblowing hotline](#)*).

Initiatives planned for 2021 include raising leadership awareness about diversity; providing training to the Human Resources Team; and implementing diversity and inclusion processes with support from specialized consultants.



Our efforts to promote diversity in our workforce have been translated into a wealth of ideas and perspectives



*Soup Jouvou*, an event held before the pandemic in which employees and their families celebrated Haiti's independence

**DIVERSITY OF GOVERNANCE BODIES (BOARD OF DIRECTORS) (%) GRI 405-1**

	2018	2019	2020
<b>BY GENDER</b>			
Men	100	77.78	77.78
Women	0	22.22	22.22
<b>BY AGE GROUP</b>			
< 30	0	0	0
31 to 50	0	22.22	22.22
> 51	100	77.78	77.78

**People with disabilities by employee category<sup>1,2</sup> GRI 405-1**

	2018		2019		2020	
	%	NO.	%	NO.	%	NO.
Technical/supervisor	2	4	1	4	2	5
Administrative	1	8	1	10	1	8
Operational	1	138	1	141	1	131

1. The percentage is based on the total number of employees in each employee category.

2. There are no PwDs (People with Disabilities) in other employee categories at Tupy.

**DIVERSITY BY EMPLOYEE CATEGORY AND GENDER (%) GRI 405-1**

	2018		2019		2020	
	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN
Executive Board	90	10	88.89	11.11	90.91	9.09
Managers	91.67	8.33	92.65	7.35	92.65	7.35
Leaders/coordinators	84.93	15.07	86.99	13.01	85.21	14.79
Technical/supervisor	98.46	1.54	97.83	2.17	98.1	1.9
Administrative	73.49	26.51	72.95	27.05	72.21	27.79
Operational	94.78	5.22	94.3	5.7	94.01	5.99
Trainees	0	0	60	40	0	0
Interns	69.01	30.99	64.29	35.71	60	40
Apprentices	43.2	56.8	47.24	52.76	41.53	58.47
<b>Total</b>	<b>92.48</b>	<b>7.52</b>	<b>92.03</b>	<b>7.97</b>	<b>91.76</b>	<b>8.24</b>

Note: The trainee, intern and apprentice employee categories have been included in the data on diversity by employee category and gender.


**LEARN MORE**

Additional diversity data is available in the [Appendices/GRI Supplement](#)

## HEALTH AND SAFETY

As one of our values, health and safety is a topic that permeates every aspect of our day-to-day operations.

In 2020 our health efforts were focused on the COVID-19 response and adapting our operations. This included social distancing and hygiene protocols, assigning people in the at-risk group to work from home, and limiting the number of employees working on site.

Employee safety in our operations is ensured by standards and procedures, regular safety training on key topics, prevention initiatives, and awareness campaigns and communications. In 2020 we continued investments in equipment upgrades, as well as allocating considerable funding to COVID-19 safety and response initiatives.

To maintain close communications with employees working from home, we provided hotlines and interacted closely with team members to answer questions and avoid misunderstandings about aspects related to COVID-19.

Reflecting the importance we attach to health, safety and the environment, these are the first topics on the agenda in all weekly Executive Board meetings, during which

**9,960**  
Safe Practices checklists completed

**7,700**  
preventive and corrective actions implemented



executives discuss any adverse events and recommendations on improvement.

**Our management approach GRI 103|403**  
Tupy has an Occupational Health & Safety system that is based on internationally recognized standards and guidelines on risk

management. Indirectly, the system also covers all people who enter our premises (third-party employees, visitors, customers, etc.). For third-party employees, a standard contract addendum contains provisions requiring compliance with legal requirements and Tupy's internal safety rules and

procedures. These workers are also required to request a permit to work before initiating their tasks, where applicable.

Workstation assessments for third-party workers are the responsibility of their employers. **GRI 403-1**



Health and safety activities in all our operations are governed by an Integrated Management Policy covering Health, Safety, the Environment, Quality, Social Responsibility, and Brazilian Regulatory Standards. Tupy is committed to the continuous improvement of its safety management systems and to placing health, safety and environmental concerns above all others. We also work to effectively prevent risks and address nonconformities, in compliance with applicable laws and regulations, standards, requirements, and internal procedures. In Mexico, we ensure the same level of compliance with the Official Mexican Standards (NOMs).

Through our employee induction program, we provide health and safety training to employees covering: the use of Personal Protective Equipment (PPE); on-the-job training; work and emergency procedures; and specific training required by legal requirements or when work procedures and instructions are issued or revised, depending on the employees affected. Non-employees attend an induction training program that includes general safety principles, and work and emergency procedures. **GRI 403-5**

The safety performance of our operational processes is monitored through a set of

key performance indicators (KPIs). The two primary KPIs are Injury Frequency rates and Severity Rates, which are measured and analyzed on a monthly basis by our executive committee. Monitoring and assessments are also required under health and safety procedures to inform preventive and corrective actions designed to mitigate or eliminate the risk of occupational injuries, incidents or illnesses. **GRI 403-1, 403-4, 403-7, 403-9**

Employees participate in incident investigations and assessments through Safety Committees, and attend Daily Toolbox Talks that raise awareness about the importance of safety. In monthly meetings, committee members discuss issues raised by different departments and work together to develop corrective action plans. **GRI 403-4**

We use a variety of tools to identify hazards and assess risks in routine activities, and have documented procedures to ensure work is done safely. These procedures are developed based on applicable laws and regulations, best safety practices, and the nature of the task. **GRI 403-2**

For non-routine activities, hazard identification and risk mitigation measures are implemented through a Permit to Work



Hazard identification and risk assessments are conducted in accordance with applicable laws and regulations, industry best practices, and task-specific requirements

System, which addresses the specific occupational safety engineering requirements for each task.

Our occupational safety team has appropriate training on good safety practices and applicable safety regulations. The users of safety tools and procedures also receive appropriate training. **GRI 403-2**

The findings from risk assessments on required controls are used as inputs into work procedures and instructions and for continuous improvement of the occupational health and safety management system. **GRI 403-2**

A form is available for all direct and third-party employees to report any incidents or unsafe conditions. Employees are protected from retaliation under our Code of Ethics & Business Conduct, and we regularly conduct campaigns to encourage all employ-

ees to report unsafe situations to the safety team. Reports are reviewed and corrective or improvement actions are managed by the leadership team on a weekly basis. The incident investigation and assessment process is based on legal requirements and good safety practices, including: incident classification; investigation and assessment; developing and following up on action plans; and communicating and reporting safety incidents and corrective action. **GRI 403-2**

Tupy's Safety Department is structured to respond to any safety risks and emergencies in our operations. On-site first-aid rooms are adequately equipped with all required infrastructure, equipment and qualified first-aiders. Physicians, nurses and ergonomics specialists are trained for any occupational, emergency or routine assistance that employees may require in our operations. In addition to occupational safety assessments,

studies and surveys, we use data and statistics from first aid and other doctor's cases to inform preventive health campaigns. We also monitor and assist employees with chronic illnesses, helping them to improve their quality of life and fitness for their duties. **GRI 403-3**

Our primary goal is to prevent and reduce accidents. Accordingly, our priority target is reducing injury frequency rates. **GRI 403-7**

**OCCUPATIONAL INJURIES** **GRI 403-9**

	2018	2019	2020
<b>EMPLOYEES</b>			
Number of hours worked	31,010,173	29,627,612	20,825,972
Number of fatalities as a result of work-related injuries	0	1	0
Rate of fatalities as a result of work-related injuries	0	0.034	0
Number of high-consequence work-related injuries (excluding fatalities)	5	6	4
Rate of high-consequence work-related injuries (excluding fatalities)	0.16	0.2	0.19
Number of recordable work-related injuries (including fatalities)	552	487	277
Rate of recordable work-related injuries (including fatalities)	17.8	16.44	13.3

Note: there are no workers at Tupy who are not employees, but whose work and/or workplace is controlled by the organization. Information on work-related injuries includes our Mauá operation (Brazil), but the plant recorded no lost-time or no-lost-time injuries in the year. The data is therefore essentially related to our operations in Joinville (Brazil), Saltillo and Ramos Arizpe (Mexico).



Our safety department is structured to respond to safety risks and emergencies in our operations



# Customers



With more than 80% of our revenues coming from exports, our customer base is diverse in multiple aspects

With more than 80% of our revenues coming from export markets, our customer base is highly diversified in terms of geographies, products and applications (*read more in [Research & Development](#)*).

In a long-term partnership, we manufacture customized products for major global players in capital goods industries, including: freight transportation (parts and com-

ponents for trucks and other vehicles); infrastructure; building and construction; mining; agriculture; and power generation. Our product engineers work closely with customers in a process that can extend for more than two years.

The challenge of serving customers in highly diverse geographies was exacerbated in 2020 by the impacts from the pandemic. This required us to take steps to prevent supply disruptions and deal with the resulting vola-

tility in sales volumes, which had significant impacts in terms of storage and inventories of materials and end products (*read more in [Crisis management](#)*).



# Suppliers

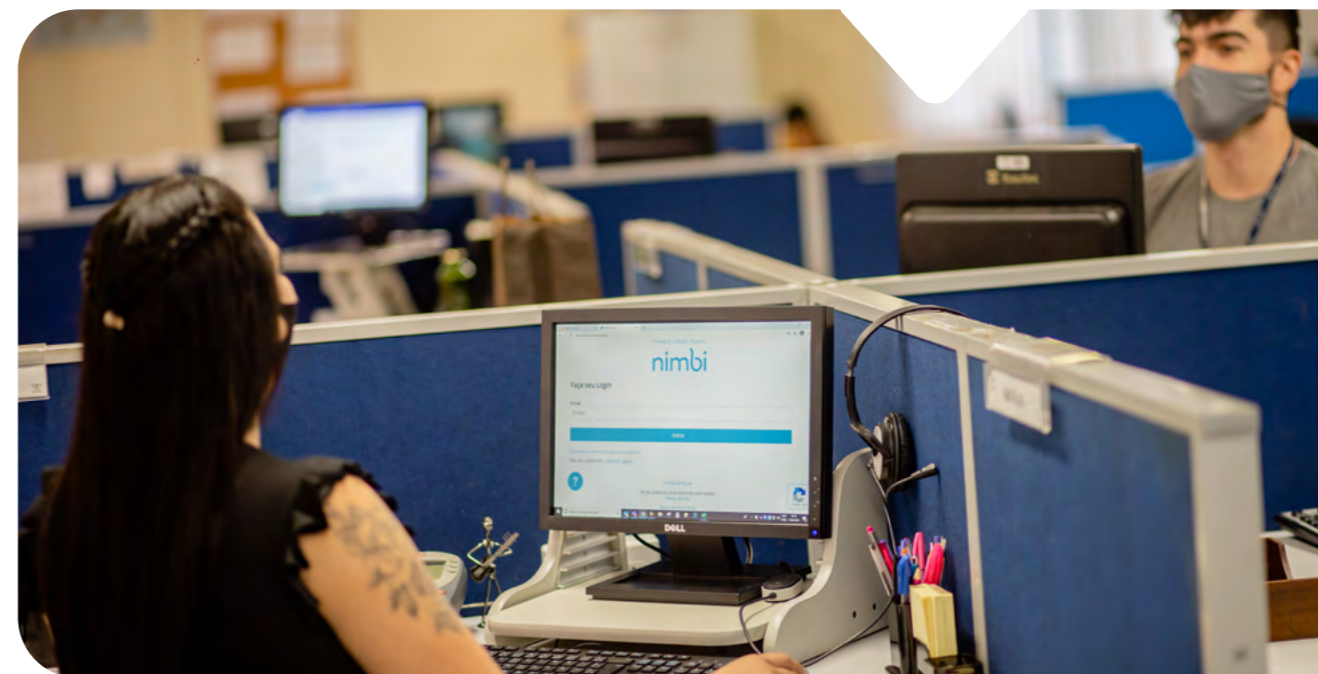
GRI 102-9, 103|403, 103|407, 103|408, 103|409

Reflecting the complexity of our supply chain, Tupy has a diverse supplier base from which we source a wide range of products, services and inputs. Our suppliers vary in size from suppliers to large organizations. Before any partnership is started, potential suppliers of raw materials, inputs and services undergo a commercial and technical assessment to verify compliance with legal requirements applicable to the nature of the contract. In some cases this also involves on-site audits, although a remote format was used in 2020 due to the pandemic.

For waste disposal services, the Environment Department ensures the entire process is traceable and effectively managed, and screens these suppliers on environmental requirements.

We also work to build closer relations and dialog with suppliers, and support their development as a way to drive improvement in our supply chain.

In 2020, we refined our Supplier Management Policy and initiated a process to seek suppliers that are more responsible and technologically advanced, and that can help us to achieve cost savings. The reformulated policy contains stringent guidelines based on social and environmental standards and applicable regulations. Suppliers are also required to comply with our Code of Ethics & Business Conduct, including requirements against child, forced and slave labor. In 2020 we introduced a digital platform, called NIMBI, that also addresses these requirements. NIMBI is a supply chain platform that our Procurement department uses to manage supplier onboarding and request-for-quote processes. Because compliance with these requirements is a condition for doing business with Tupy, there are no active suppliers that are not compliant. **GRI 408-1, 409-1**



Suppliers are assessed using a three-tier risk matrix; suppliers classified in the bottom tier are required to submit an action plan for implementation. The scope of the assessment covers sustainability, quality, reliability, schedule performance and regulatory requirements.

We also require companies providing services to have practices and policies in place to protect the health of their employees, in line with our own principles and values. All



We implement high-impact initiatives in our supply chain that reflect the diversity of our suppliers

suppliers are required under contract to comply with applicable legal requirements and Company rules and procedures. In addition, third-party employees receive non-occupational health support, and our first-aid service is available to all workers on the company's premises in the event of an emergency. **GRI 403-6, GRI 403-7**

Freedom of association and collective bargaining are required by the legislation of most of our suppliers' home countries, with 99.6% of suppliers located in countries known to have strong labor regulations. This percentage includes both developed countries and developing countries that have strong union representation, such as Brazil, Mexico, Argentina and South Africa. Most of our suppliers also have their own compliance programs, and can request support from Tupy to address any violations. We are unaware of any operations or suppliers in which the right to freedom of association and collective bargaining may be at risk. **GRI 407-1**

**Other criteria** **GRI 103|301**

After a supplier has been selected by the Procurement department, and technically validated by a multidisciplinary team, raw materials are then purchased from that supplier on an ongoing basis; for any new suppliers or change of supplier, the validation process is repeated.

Suppliers, and the materials they deliver, are monitored using a Supplier Quality Index (SQI) that includes criteria such as on-time delivery, order completeness, and quality nonconformities. The Supplier Quality Management function compiles and monitors SQI

data, and works with suppliers to address deviations. Quality specialists also conduct on-site technical inspections on requirements that are based on these indicators and the type of supplier (critical or noncritical).



Emissions inspections on trucks arriving at the plant



**OUR SUPPLIERS**

**GRI 102-9**

**170** categories

**3,156** companies

**R\$ 2.8 billion**  
in average annual payments  
to suppliers



# Communities

GRI 103|203|413

Among our values is a commitment to protecting the environment and the well-being of our communities. Our Integrated Health, Safety, Environment and Social Responsibility Policy outlines our approach to communities, which includes complying with applicable laws and regulations, preventing risks, optimizing natural resource use, and supporting sustainability.

In 2020, we supported community health efforts in response to the COVID-19 pandemic (*read more in [Our COVID-19 Response](#)*) and a dengue fever outbreak in Joinville, where we assisted the municipal health department in home inspections for mosquito breeding sites as volunteers.

Under a Social Investment Policy issued in 2011, we sponsor initiatives on several fronts, including education, the environment, recreation, culture and sports. We work proactively



It is imperative that the success of our business is translated into local development

to address community needs and priorities, helping to transform social realities.

Investing in education is a long tradition at Tupy. In 1959 we established a technical school in Joinville, initially providing technical training in metallurgy—the city is an important steelmaking hub—and later other courses, such as data processing, helping to provide skilled labor for the technology companies that were flourishing in the city and fast becoming important global players. We currently provide technical and supplementary training in collaboration with the Industrial Training Service (SENAI), and encourage employees to facilitate classes as part of our Youth and Adult Education program, which helps employees and community residents to finish primary and secondary education. For many of our vacancies, candidates are

not required to have completed primary education as a way to help these people enter the job market, and later pursue opportunities for development. **GRI 203-2**

We also hire immigrants, generating a positive impact on the local economy by providing employment and income to socially vulnerable people, supporting their integration into the job market and local culture. **GRI 203-2**

Our community investments are governed by our Social Investment Policy, which provides

guidelines on engagement, investment agendas, employee participation, collaboration in partnerships or networks, transparency, and assessment systems.

In Mexico, webinars were organized in October and November to raise awareness about preventing breast and prostate cancer. The webinars were attended by 76 women and 67 men, respectively. We also organized a hair donation campaign to make wigs, and draws for mammograms.



Another social responsibility initiative in Mexico, called *Dibuja una Sonrisa*, provided an opportunity for employees to show solidarity. In 2020, 67 children at two charities received donations of essential items such as shoes, clothes and personal care products, as well as toys. A total of 185 employees participated in the initiative.

On the volunteering front, our initiatives are largely concentrated within the *Transformadores Tupy* program. With 120 participants in Brazil and Mexico, in 2020 the initiative was presented with a *Ser Humano* award in the People & Sustainability Management category by the Brazilian Human Resources Association (ABRH-SC).

The ethnic diversity of our team is another expression of our commitment to communities (*read more in [People management/Diversity](#)*).

### ▶ OUR PLATFORMS

1. Company initiatives
  2. Supported initiatives
  3. Tax-deducted
  4. Volunteering
- Transformadores Tupy*



# 60,000+ m<sup>2</sup>

of recreational space open to the general public, including restaurants, kiosks, indoor gymnasiums, volleyball, tennis and futsal courts, and a running track

Around

# R\$ 3.6+ billion

injected into the Brazilian and Mexican economies<sup>1</sup>



1. These figures include: (i) inputs purchased from third parties (raw materials, process consumables and materials, electricity, third-party services, and other; (ii) distribution of added value in the form of employee salaries, payroll taxes, Severance Indemnity Fund (FGTS) contributions, profit sharing and management fees; and (iii) federal, state and municipal taxes and duties.



The Boa Vista Cycling Circuit, an annual event sponsored by Tupy

# Our COVID-19 Response

Since the onset of the COVID-19 crisis, Tupy has implemented actions and initiatives to support local communities in coping with the impacts from the pandemic. We created a Crisis Committee and hired an infectious disease expert to assist us in planning and decision-making. Initiatives were implemented on six fronts: employees, customers; production; supply chain; revenue protection; and social impact.

One of our most significant initiatives was a Screening and Testing Center set up at our sports facility in partnership with the municipal government of Joinville. The center has a total of 20 exam rooms and provides free services to the entire community, with a throughput capacity of 150 people per hour.

In both Brazil and Mexico, we donated Personal Protective Equipment (PPE) to local hospitals, and groceries to local charities. We also provided engineering capabilities to service hospital equipment, produce 100 stretchers, and develop an epidemiological software platform for the municipal government of Joinville. GRI 102-11



More than

# 40,000 people

served by our COVID-19 Screening and Testing Center between April and December 2020



### Communication and impacts **GRI 103|203|413**

Communication channels are available on our website that increase transparency and help to build closer relationships and collaboration with our internal and external stakeholders. The Internal and External Communications Policy within our Environmental Management System describes our procedures and system for receiving, docu-

menting and, where applicable, responding to requests for information and concerns about our activities, environmental impacts, and incidents or emergency situations.

Our Emergency Response Plan (ERP) describes potential environmental emergency scenarios, emergency response responsibilities, and communications and training procedures. In 2020, we retained the services of a company specializing in environmental, chemical and biological emergency response operations to prevent impacts on human health, the environment, property and surrounding communities.

Incidents are assessed by completing a form containing a description and assessment of the incident and response procedures. Reported incidents are monitored along with other environmental indicators, and assessed during review meetings held by the Executive Board.

Tupy's Integrated Management Policy also addresses our supply chain, including guidelines on delivering shareholder value, main-



## Communication channels enhance transparency and help to build closer relationships and collaboration with stakeholders

taining positive relationships with customers and suppliers, open and transparent communications with stakeholders, and ethical and socially and environmentally responsible corporate practices.

Significant aspects of our impact on communities are assessed through audits on our Integrated Management System. However, although metrics such as employee hires, the percentage of local suppliers and training hours are monitored, we currently neither report on nor have specific targets for indirect economic impacts. These aspects will be considered in developing targets and indicators for the coming years. **GRI 203-2**



# 6.

## ▶ Appendixes

IN THIS CHAPTER

- > GRI SUPPLEMENT
- > GRI CONTENT INDEX
- > CORPORATE INFORMATION AND CREDITS







# GRI Supplement

## ► SOLID WASTE

### WASTE DIVERTED FROM DISPOSAL BY RECOVERY OPERATION<sup>1</sup> (t) GRI 306-4

	2018			2019			2020		
	WITHIN THE ORGANIZATION	OUTSIDE THE ORGANIZATION	TOTAL	WITHIN THE ORGANIZATION	OUTSIDE THE ORGANIZATION	TOTAL	WITHIN THE ORGANIZATION	OUTSIDE THE ORGANIZATION	TOTAL
<b>NONHAZARDOUS WASTE</b>									
Preparation for reuse	267	0	267	2,107	0	2,107	2,092	0	2,092
Recycling	516,253	76,408	592,661	536,157	76,878	613,035	452,319	64,558	516,877
<b>Total</b>	<b>516,520</b>	<b>76,408</b>	<b>592,928</b>	<b>538,264</b>	<b>76,878</b>	<b>615,142</b>	<b>454,412</b>	<b>64,558</b>	<b>518,970</b>
<b>HAZARDOUS WASTE</b>									
Recycling	0	9,293	9,293	0	8,962	8,962	0	7,447	7,447
<b>Total</b>	<b>0</b>	<b>9,293</b>	<b>9,293</b>	<b>0</b>	<b>8,962</b>	<b>8,962</b>	<b>0</b>	<b>7,447</b>	<b>7,447</b>
<b>GRAND TOTAL</b>	<b>516,520</b>	<b>85,702</b>	<b>602,222</b>	<b>538,264</b>	<b>85,840</b>	<b>624,104</b>	<b>454,412</b>	<b>72,005</b>	<b>526,417</b>

Note: the data includes all waste materials sent for reuse, recovery or recycling. The recycling category includes waste materials recycled on-site (regenerated). Data were compiled from the waste management system and waste transportation manifests.

1. Waste data is for our operations in Joinville (Brazil), Saltillo and Ramos Arizpe (Mexico). The Mauá plant in Brazil accounted for less than 1% of volumes and was therefore excluded.

### WASTE DIRECTED TO DISPOSAL<sup>1</sup> (t) GRI 306-5

	2018	2019	2020
Non-hazardous waste directed to disposal	786,569	816,545	452,189
Hazardous waste directed to disposal	3,838	4,714	3,005
<b>Total</b>	<b>790,407</b>	<b>821,259</b>	<b>455,194</b>

1. Waste data is for our operations in Joinville (Brazil), Saltillo and Ramos Arizpe (Mexico). The Mauá plant in Brazil accounted for less than 1% of volumes and was therefore excluded.

## ► SOLID WASTE

### TOTAL WASTE DIRECTED TO DISPOSAL, BY OPERATION<sup>1</sup> (t) GRI 306-5

	2018			2019			2020		
	WITHIN THE ORGANIZATION	OUTSIDE THE ORGANIZATION	TOTAL	WITHIN THE ORGANIZATION	OUTSIDE THE ORGANIZATION	TOTAL	WITHIN THE ORGANIZATION	OUTSIDE THE ORGANIZATION	TOTAL
<b>NONHAZARDOUS WASTE</b>									
Landfill	411,934	374,635	786,569	448,001	368,544	816,545	315,510	136,679	452,189
<b>Total</b>	<b>411,934</b>	<b>374,635</b>	<b>786,569</b>	<b>448,001</b>	<b>368,544</b>	<b>816,545</b>	<b>315,510</b>	<b>136,679</b>	<b>452,189</b>
<b>HAZARDOUS WASTE</b>									
Landfill	0	3,838	3,838	0	4,714	4,714	0	3,005	3,005
<b>Total</b>	<b>0</b>	<b>3,838</b>	<b>3,838</b>	<b>0</b>	<b>4,714</b>	<b>4,714</b>	<b>0</b>	<b>3,005</b>	<b>3,005</b>
<b>Grand total</b>	<b>411,934</b>	<b>378,473</b>	<b>790,407</b>	<b>448,001</b>	<b>373,258</b>	<b>821,259</b>	<b>315,510</b>	<b>139,683</b>	<b>455,194</b>

1. Waste data is for our operations in Joinville (Brazil), Saltillo and Ramos Arizpe (Mexico). The Mauá plant in Brazil accounted for less than 1% of volumes and was therefore excluded.

### ENERGY CONSUMPTION WITHIN THE ORGANIZATION<sup>1</sup> (GJ) GRI 302-1

CONSUMPTION OF NONRENEWABLE FUELS	2018 <sup>3</sup>	2019	2020
Coke	2,391,656	2,413,037	1,576,094
Electric power <sup>3</sup>	1,555,447	1,756,652	1,324,543
Natural gas	1,550,897	1,497,438	1,168,486
LPG	3,865	26,192	19,601
Diesel	102,410	145,371	143,774
<b>Total</b>	<b>5,604,275</b>	<b>5,838,690</b>	<b>4,232,498</b>

Note: In our databases, energy data was recorded by source using the following units: coke (kg), natural gas (m<sup>3</sup>), LPG (kg), diesel (l), electricity (kWh). These units of measure were converted into GJ based on the Brazilian Energy Balance 2019.

1. Data on energy consumption within the organization is exclusive of our Mauá operation (Brazil), which was curtailed.

2 The LPG data for 2018 excludes our plants in Mexico.

3. The non-renewable fuel component in electricity consumption assumes all electric power in Mexico and 25% of electric power in Brazil is from non-renewable sources.

### CONSUMPTION OF RENEWABLE-SOURCE FUELS (GJ) GRI 302-1

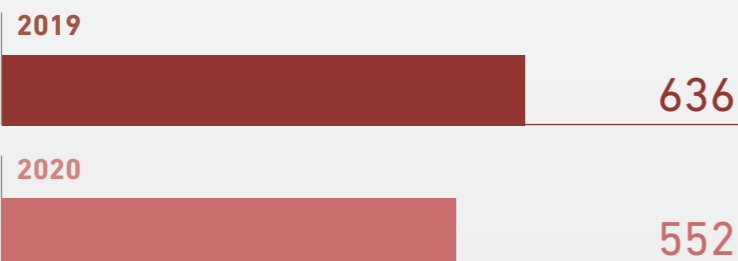
	2018	2019	2020
Electric power <sup>1</sup>	1,352,588	1,396,678	1,114,792

1. The fuel component in electric power consumption assumes 75% of electric power in Brazil is from renewable sources.



## ▶ EMISSIONS

### ▶ BIOGENIC CO<sub>2</sub> EMISSIONS (tCO<sub>2</sub> EQUIVALENT) GRI 305-1



### DIRECT (SCOPE 1) GREENHOUSE GAS (GHG) EMISSIONS<sup>1</sup> – (tCO<sub>2</sub> EQUIVALENT) GRI 305-1

	2019	2020
Production of electricity, heat or steam	396,950	267,727
Physical-chemical processing	112,920	91,715
Transportation of materials, products, waste, employees and passengers	13,487	10,373
Fugitive emissions (refrigerant and fire extinguisher gases)	2,915	1,511
Total CO <sub>2</sub> emissions per total production equivalent	0.81	0.87
Total gross CO <sub>2</sub> emissions	526,272	371,326

1. The following gases have been included in the calculations: CO<sub>2</sub> (carbon dioxide); CH<sub>4</sub> (methane); N<sub>2</sub>O (nitrous oxide); and HFCs (hydrofluorocarbons). Data in Brazil is for the Joinville operation only, and data in Mexico is for the Ramos Arizpe and Saltillo operations. The plant in Mauá accounted for less than 1% of emissions and was therefore excluded.

## ▶ WORKFORCE PROFILE

### BY EMPLOYEE CATEGORY AND GENDER<sup>1</sup> GRI 102-8

	2018		2019		2020	
	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN
Executive Board	9	1	8	1	10	1
Managers	55	5	63	5	63	5
Leaders/coordinators	124	22	127	19	121	21
Technical/supervisor	255	4	270	6	258	5
Administrative	779	281	801	297	764	294
Total by gender	<b>13,507</b>	<b>990</b>	<b>13,220</b>	<b>1,051</b>	<b>12,433</b>	<b>1,041</b>
<b>Grand Total</b>	<b>14,497</b>		<b>14,271</b>		<b>13,474</b>	

1. The table excludes trainees, interns and apprentices, which are classified as workers rather than as employees.

### BY AGE GROUP GRI 102-8

	2018	2019	2020
< 30	4,753	4,515	3,995
31 to 50	8,234	8,315	8,078
> 51	1,510	1,441	1,401
<b>Total</b>	<b>14,497</b>	<b>14,271</b>	<b>13,474</b>

### NEW HIRES GRI 401-1

	2018		2019		2020	
	NO.	RATE	NO.	RATE	NO.	RATE
<b>BY GENDER</b>						
Men	5,563	0.41	4,236	0.32	1,756	0.14
Women	415	0.42	339	0.32	174	0.17
<b>Total</b>	<b>5,978</b>	<b>0.41</b>	<b>4,575</b>	<b>0.32</b>	<b>1,930</b>	<b>0.14</b>
<b>BY REGION</b>						
Brazil	1,887	0.21	1,466	0.16	1,200	0.13
Mexico	4,091	0.76	3,109	0.6	730	0.17
<b>Total</b>	<b>5,978</b>	<b>0.41</b>	<b>4,575</b>	<b>0.32</b>	<b>1,930</b>	<b>0.14</b>
<b>BY AGE GROUP</b>						
< 30	3,993	0.84	2,928	0.65	1,103	0.28
31 to 50	1,953	0.24	1,616	0.19	812	0.10
> 51	32	0.02	31	0.02	15	0.01
<b>Total</b>	<b>5,978</b>	<b>0.41</b>	<b>4,575</b>	<b>0.32</b>	<b>1,930</b>	<b>0.14</b>

## ▶ WORKFORCE PROFILE

TURNOVER <sup>1</sup> GRI 401-1						
	2018		2019		2020	
	NO.	RATE	NO.	RATE	NO.	RATE
<b>BY GENDER</b>						
Men	4,213	0.31	4,491	0.34	2,550	0.21
Women	261	0.36	298	0.28	184	0.18
<b>Total</b>	<b>4,474</b>	<b>0.31</b>	<b>4,789</b>	<b>0.34</b>	<b>2,734</b>	<b>0.20</b>
<b>BY REGION</b>						
Brazil	1,344	0.15	1,488	0.16	1,157	0.13
Mexico	3,130	0.58	3,301	0.64	1,577	0.36
<b>Total</b>	<b>4,474</b>	<b>0.31</b>	<b>4,789</b>	<b>0.34</b>	<b>2,734</b>	<b>0.20</b>
<b>BY AGE GROUP</b>						
< 30	2,781	0.59	2,953	0.65	1,442	0.36
31 to 50	1,546	0.19	1,687	0.2	1,168	0.14
> 51	147	0.1	149	0.1	124	0.09
<b>Total</b>	<b>4,474</b>	<b>0.31</b>	<b>4,789</b>	<b>0.34</b>	<b>2,734</b>	<b>0.20</b>

1. Terminations.

## ▶ TRAINING AND DEVELOPMENT

AVERAGE HOURS OF TRAINING PER YEAR PER EMPLOYEE GRI 404-1			
	2018 <sup>1</sup>	2019	2020
<b>BY GENDER</b>			
Men	12.21	18.70	9.53
Women	17.17	16.23	8.67
<b>Total</b>	<b>12.55</b>	<b>18.52</b>	<b>9.47</b>
<b>BY EMPLOYEE CATEGORY</b>			
Executive Board	8.40	5.33	3.27
Managers	20.96	21.47	11.38
Leaders/coordinators	13.81	17.46	12.06
Technical/supervisor	14.54	13.63	11.29
Administrative	21.99	14.87	10.33
Operational	11.67	18.95	9.31
<b>Total</b>	<b>12.55</b>	<b>18.52</b>	<b>9.47</b>

Note: the impacts from the COVID-19 pandemic on production operations, the initial limitations on on-site activities, and the required adaptations in practical training affected overall training hours. However, all training programs were maintained.

1. The Saltillo and Ramos Arizpe plants were not included in 2018.

## ▶ PERFORMANCE ASSESSMENT

### EMPLOYEES RECEIVING REGULAR PERFORMANCE AND CAREER DEVELOPMENT REVIEWS, BY EMPLOYEE CATEGORY (%) GRI 404-3

	2018			2019			2020		
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
Executive Board	100	100	100	100	100	100	100	100	100
Managers	100	100	100	98.41	100	98.53	98.41	80	97.06
Leaders/coordinators	98.39	100	98.63	96.06	100	96.58	100	100	100
Technical/supervisor	100	100	100	99.63	100	99.64	99.61	100	99.62
Administrative	90.04	100	92.65	99.64	100	99.46	89.53	97.96	91.87
<b>Total</b>	<b>93.44</b>	<b>100</b>	<b>94.77</b>	<b>98.98</b>	<b>100</b>	<b>99.19</b>	<b>93.26</b>	<b>97.85</b>	<b>94.23</b>

Note: there is currently no formal performance review program in place for this employee category.

## ▶ DIVERSITY

### DIVERSITY BY EMPLOYEE CATEGORY AND AGE GROUP (%) GRI 405-1

	2018			2019			2020		
	< 30	31-50	> 51	< 30	31-50	> 51	< 30	31-50	> 51
Executive Board	0	40	60	0	50	50	0	45.45	54.55
Managers	1.67	85	13.33	0	85.29	14.71	0	83.82	16.18
Leaders/Coordinators	2.05	74.66	23.29	2.05	79.45	18.49	0.7	78.87	20.42
Technical/Supervisor	6.95	80.69	12.36	7.25	81.16	11.59	6.49	80.92	12.6
Administrative	23.91	67.63	8.47	27.53	64.26	8.21	26.28	65.12	8.6
Operational	34.56	55.1	10.34	33.06	56.86	10.08	31	58.68	10.32
Trainees	0	0	0	100	0	0	0	0	0
Interns	97.18	2.82	0	97.62	2.38	0	96.67	3.33	0
Apprentices	100	0	0	100	0	0	100	0	0

Note: the trainee, intern and apprentice employee categories have been included in the data on diversity by employee category and age group.




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**RATIO OF BASIC SALARY AND REMUNERATION OF WOMEN TO MEN<sup>1</sup>** GRI 405-2
 

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	2018	2019	2020
<b>RATIO OF WOMEN TO MEN</b>			
Managers	1.04	1.04	1.1
Leaders/Coordinators	1.1	1.2	1.1
Technical/Supervisor	1.1	0.9	1.1
Administrative	1.1	1	1
Operational	0.9	1	1

1. The ratio was omitted for Executive Board positions for confidentiality reasons, as there is only one female member of the Executive Board.



# GRI Content Index

GRI 102-55

GRI Standard	Disclosure	Page	Omission	SDG*
<b>GENERAL DISCLOSURES</b>				
<b>GRI 101: Foundation 2016</b>	GRI 101 contains no disclosures			
	102-1 Name of the organization	11	-	-
	102-2 Activities, brands, products, and services	11	-	-
	102-3 Location of headquarters	11	-	-
	102-4 Location of operations	11	-	-
	102-5 Ownership and legal form	11	-	-
	102-6 Markets served	11	-	-
<b>GRI 102: General disclosures 2016</b>	102-7 Scale of the organization	9, 12	-	-
	102-8 Information on employees and other workers	48, 49, 68	-	8, 10
	102-9 Supply chain	58, 59	-	-
	102-10 Significant changes to the organization and its supply chain	We entered the year amid an expansion following our announcement of the acquisition of ironworks company Teksid's global iron castings business. The deal, which is under review by antitrust authorities, includes operations in Brazil, Mexico, Poland and Portugal, a stake in a joint venture in China, an engineering center in Italy, and sales offices in the US ( <i>read more on page 25</i> ).	-	-
	102-11 Precautionary principle or approach	19, 62	-	-





GRI Standard	Disclosure	Page	Omission	SDG*
<b>GENERAL DISCLOSURES</b>				
GRI 102: General disclosures 2016	102-12 External initiatives	33	-	-
	102-13 Membership of associations	33	-	-
<b>STRATEGY</b>				
GRI 102: General disclosures 2016	102-14 Statement from senior decision-maker	3	-	-
	102-15 Key impacts, risks, and opportunities	3	-	-
<b>ETHICS AND INTEGRITY</b>				
GRI 102: General disclosures 2016	102-16 Values, principles, standards, and norms of behavior	15, 32	-	-
	102-17 Mechanisms for advice and concerns about ethics	32	-	-
<b>GOVERNANCE</b>				
GRI 102: General disclosures 2016	102-18 Governance structure	27, 28, 29, 30	-	-
	102-22 Composition of the highest governance body and its committees	27, 29, 30	-	5, 16
	102-28 Evaluating the highest governance body's performance	27	-	-
	102-35 Remuneration policies	30	-	-
<b>STAKEHOLDER ENGAGEMENT</b>				
GRI 102: General disclosures 2016	102-40 List of stakeholder groups	6	-	-
	102-41 Collective bargaining agreements	48	-	-
	102-42 Identifying and selecting stakeholders	6	-	-
	102-43 Approach to stakeholder engagement	6	-	-
	102-44 Key topics and concerns raised	7	-	-



GRI Standard	Disclosure	Page	Omission	SDG*
<b>REPORTING PRACTICES</b>				
	102-45 Entities included in the consolidated financial statements	5	-	-
	102-46 Defining report content and topic Boundaries	7	-	-
	102-47 List of material topics	7	-	-
	102-48 Restatements of information	Tupy has published no prior sustainability reports.	-	-
	102-49 Changes in reporting	Tupy has published no prior sustainability reports.	-	-
<b>GRI 102: General disclosures 2016</b>	102-50 Reporting period	5	-	-
	102-51 Date of most recent report	This is Tupy's first sustainability report.	-	-
	102-52 Reporting cycle	Sustainability reports will be issued annually.	-	-
	102-53 Contact point for questions regarding the report	5	-	-
	102-54 Claims of reporting in accordance with the GRI Standards	This report has been developed in accordance with the GRI Standards.	-	-
	102-55 GRI Content Index	72	-	-
	102-56 External assurance	This report has not been independently assured.	-	-



GRI Standard	Disclosure	Page	Omission	SDG*
<b>MATERIAL TOPICS</b>				
<b>INDIRECT ECONOMIC IMPACTS</b>				
<b>GRI 103: Management approach 2016</b>	103-1 Explanation of the material topic and its Boundary	6, 7	-	-
	103-2 The management approach and its components	60, 63	-	-
	103-3 Evaluation of the management approach	60, 63	-	-
<b>GRI 203: Indirect economic impacts 2016</b>	203-2 Significant indirect economic impacts	48, 52, 60, 63	-	1, 3, 8
<b>ANTI-CORRUPTION</b>				
<b>GRI 103: Management approach 2016</b>	103-1 Explanation of the material topic and its Boundary	6, 7	-	-
	103-2 The management approach and its components	32, 33	-	-
	103-3 Evaluation of the management approach	32, 33	-	-
<b>GRI 205: Anti-corruption 2016</b>	205-3 Confirmed incidents of corruption and actions taken	<p>Cases reported in the year included: abuse of power/improper treatment; physical abuse; harassment; abuse of power; sexual harassment; conflict of interests; misconduct (an isolated case); discrimination; questions, suggestions and compliments; preferential treatment; fraud and corruption practices; noncompliance with internal policies and procedures; improper payments; theft or misappropriation of assets or cash; unauthorized disclosure of information; unauthorized disclosure or use of information; environmental violations; violations not falling under other categories; and labor violations.</p> <p>Specifically in relation to corruption, there were 18 confirmed cases in 2020, with 17 resulting in disciplinary action or termination and 3 resulting in termination or non-renewal of supplier contracts. These cases were related to fraud and corruption practices, improper payments, conflicts of interest, and noncompliance with internal procedures and policies. No public legal cases relating to corruption were brought against the Company or its employees in 2020 (Read more in <a href="#">Whistleblowing channel</a>).</p>	-	16



GRI Standard	Disclosure	Page	Omission	SDG*
<b>ANTI-COMPETITIVE BEHAVIOR</b>				
<b>GRI 103: Management approach 2016</b>	103-1 Explanation of the material topic and its Boundary	6, 7	-	-
	103-2 The management approach and its components	31, 32	-	-
	103-3 Evaluation of the management approach	31, 32	-	-
<b>GRI 206: Anti-competitive behavior 2016</b>	206-1 Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	There were no legal actions for anti-competitive behavior, anti-trust, and monopoly practices.	-	16
<b>MATERIALS</b>				
<b>GRI 103: Management approach 2016</b>	103-1 Explanation of the material topic and its Boundary	6, 7	-	-
	103-2 The management approach and its components	16, 43	-	-
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<b>GRI 301: Materials 2016</b>	301-2 Recycled input materials used	43	-	8, 12
<b>ENERGY</b>				
<b>GRI 103: Management approach 2016</b>	103-1 Explanation of the material topic and its Boundary	6, 7	-	-
	103-2 The management approach and its components	16, 44	-	-
	103-3 Evaluation of the management approach	44	-	-
<b>GRI 302: Energy 2016</b>	302-1 Energy consumption within the organization	Information for 2018 is unavailable for this disclosure (read more on <a href="#">p.p. 44, 45, 66</a> ).	-	
	302-5 Reductions in energy requirements of products and services	21, 23, 28	No information is available on reductions in energy requirements of products and services (GJ). Energy-related efforts gained momentum at Tupy in 2020, and related projects, partnerships, targets and indicators are currently being discussed.	7, 8, 12, 13



GRI Standard	Disclosure	Page	Omission	SDG*
<b>EMISSIONS</b>				
<b>GRI 103: Management approach 2016</b>	103-1 Explanation of the material topic and its Boundary	6, 7	-	-
	103-2 The management approach and its components	39	-	-
	103-3 Evaluation of the management approach	39	-	-
<b>GRI 305: Emissions 2016</b>	305-1 Direct (Scope 1) GHG emissions	40, 67	-	3, 12, 13, 14, 15
	305-2 Energy indirect (Scope 2) GHG emissions	40	-	
	305-7 NOx, SOx, and other significant air emissions	39	-	3, 12, 14, 15
<b>EFFLUENTS AND WASTE</b>				
<b>103-1 Explanation of the material topic and its Boundary</b>	103-1 Explanation of the material topic and its Boundary	6, 7	-	-
	103-2 The management approach and its components	16, 41	-	-
	103-3 Evaluation of the management approach	41	-	-
<b>GRI 306: Effluents and waste 2020</b>	306-1 Water discharge by quality and destination	41	-	-
	306-2 Waste by type and disposal method	37, 41	-	-
	306-3 Significant spills	41, 42	-	-
	306-4 Waste diverted from disposal	41, 42, 65	-	-
	306-5 Water bodies affected by water discharges and/or runoff	41, 43, 65, 66	-	-



GRI Standard	Disclosure	Page	Omission	SDG*
<b>EMPLOYMENT</b>				
<b>GRI 103: Management approach 2016</b>	103-1 Explanation of the material topic and its Boundary	6, 7	-	-
	103-2 The management approach and its components	48	-	-
	103-3 Evaluation of the management approach	48	-	-
<b>GRI 401: Employment 2016</b>	401-1 New employee hires and employee turnover	49, 68, 69	-	5, 8, 10
<b>OCCUPATIONAL HEALTH &amp; SAFETY</b>				
<b>GRI 103: Management approach 2016</b>	103-1 Explanation of the material topic and its Boundary	6, 7	-	-
	103-2 The management approach and its components	54, 58	-	-
	103-3 Evaluation of the management approach	54, 58	-	-
<b>GRI 403: Occupational health and safety 2018</b>	403-1 Occupational health and safety management system	55	-	-
	403-2 Hazard identification, risk assessment, and incident investigation	56	-	8
	403-3 Occupational health services	56	-	-
	403-4 Worker participation, consultation, and communication on occupational health and safety	55	-	8, 16
	403-5 Worker training on occupational health and safety	55	-	8
	403-6 Promotion of worker health	59	-	3
	403-7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	55, 56, 59	-	8
	403-9 Work-related injuries	55, 56	-	3, 8, 16



GRI Standard	Disclosure	Page	Omission	SDG*
<b>TRAINING AND EDUCATION</b>				
<b>GRI 103: Management approach 2016</b>	103-1 Explanation of the material topic and its Boundary	6, 7	-	-
	103-2 The management approach and its components	49	-	-
	103-3 Evaluation of the management approach	49	-	-
<b>GRI 404: Training and education 2016</b>	404-1 Average hours of training per year per employee	50, 69	-	4, 5, 8, 10
	404-2 Programs for upgrading employee skills and transition assistance programs	50	-	8
	404-3 Percentage of employees receiving regular performance and career development reviews	51, 70	-	5, 8, 10
<b>DIVERSITY AND EQUAL OPPORTUNITY</b>				
<b>GRI 103: Management approach 2016</b>	103-1 Explanation of the material topic and its Boundary	6, 7	-	-
	103-2 The management approach and its components	51	-	-
	103-3 Evaluation of the management approach	51	-	-
<b>GRI 405: Diversity and equal opportunity 2016</b>	405-1 Diversity of governance bodies and employees	53, 70	-	5, 8
	405-2 Ratio of basic salary and remuneration of women to men	51, 71	-	5, 8, 10
<b>NON-DISCRIMINATION</b>				
<b>GRI 103: Management approach 2016</b>	103-1 Explanation of the material topic and its Boundary	6, 7	-	-
	103-2 The management approach and its components	51	-	-
	103-3 Evaluation of the management approach	51	-	-



GRI Standard	Disclosure	Page	Omission	SDG*
<b>NON-DISCRIMINATION</b>				
<b>GRI 406: Non-discrimination 2016</b>	406-1 Incidents of discrimination and corrective actions taken	In 2020 there were eight reports relating to discrimination, including: five reports deemed unsubstantiated; one report deemed to be out of the Company' scope as it involved third-party employees; and two that are currently being investigated and/or addressed by the Ethics Committee. We received one report in 2019 on discrimination (sexism) and three reports in 2018 on discrimination, which were duly investigated and addressed by the Ethics Committee; two were deemed as substantiated (racism and discrimination) and one as unsubstantiated.	-	5, 8
<b>FREEDOM OF ASSOCIATION AND COLLECTIVE BARGAINING</b>				
<b>GRI 103: Management approach 2016</b>	103-1 Explanation of the material topic and its Boundary	6, 7	-	-
	103-2 The management approach and its components	58	-	-
	103-3 Evaluation of the management approach	58	-	-
<b>GRI 407: Freedom of association and collective bargaining 2016</b>	407-1 Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	59	-	8
<b>CHILD LABOR</b>				
<b>GRI 103: Management approach 2016</b>	103-1 Explanation of the material topic and its Boundary	6, 7	-	-
	103-2 The management approach and its components	58	-	-
	103-3 Evaluation of the management approach	58	-	-
<b>GRI 408: Child labor (2016)</b>	408-1 Operations and suppliers at significant risk for incidents of child labor	No operations or suppliers were identified to be at significant risk for incidents of child labor ( <i>read more on p. 58</i> ).	-	8, 16





GRI Standard	Disclosure	Page	Omission	SDG*
<b>FORCED OR COMPULSORY LABOR</b>				
	103-1 Explanation of the material topic and its Boundary	6, 7	-	-
<b>GRI 103: Management approach 2016</b>	103-2 The management approach and its components	58	-	-
	103-3 Evaluation of the management approach	58	-	-
	<b>GRI 409: Forced or compulsory labor 2016</b>	409-1 Operations and suppliers at significant risk for incidents of forced or compulsory labor	No operations or suppliers were identified to be at significant risk for incidents of forced or compulsory labor (read more on <a href="#">p. 58</a> ).	-
<b>LOCAL COMMUNITIES</b>				
	103-1 Explanation of the material topic and its Boundary	6, 7	-	-
<b>GRI 103: Management approach 2016</b>	103-2 The management approach and its components	60	-	-
	103-3 Evaluation of the management approach	60	-	-
	<b>GRI 413: Local communities 2016</b>	413-2 Operations with significant actual or potential negative impacts on local communities	Tupy's operations generate the following impacts: Impacts from our Joinville (SC) operation in Brazil on its five neighboring districts include changes in air quality, noise and felled trees; in Mauá (SP), 80% of the plant was curtailed in 2018 and therefore there were no significant impacts on local communities; in Mexico, impacts from our Saltillo operation, which is in an industrial zone near commercial and residential areas, are primarily related to changes in air quality; our Ramos Arizpe operation is in an industrial zone that is far from surrounding communities and near a multi-sector industrial park, and therefore has no significant negative impacts on local communities.	-



# Corporate information

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# Credits

## Materiality exercise, GRI consulting, editorial coordination and design

grupo report

[www.gruporeport.com.br](http://www.gruporeport.com.br)

## Translation

Ivan van Rheenen

## Photos

Rafael Richartz  
Tupy Image Archives  
P. 15: Tobias Van Schneider at *unsplash.com*  
P. 21: Taneli Lahtinen at *unsplash.com*  
P. 44: American Public Power Association at *unsplash.com*  
Photos picturing people not wearing masks were taken before the COVID-19 pandemic.

## Infographics

Cássio Bittencourt

