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**SUSTAINABILITY  
REPORT**

**2018**

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# THE COMPANY

**TERNIUM** is Latin America's leading flat steel producer. We run manufacturing facilities, service center and distribution networks in several countries in the region and the southern United States, serving customers from various industries.



## ABOUT TERNIUM

Ternium is Latin America's leading flat steel producer with an annual crude steel production capacity of 12.4 million tons. We operate in Mexico, Brazil, Argentina, Colombia, the southern United States and Central America through regional manufacturing facilities, service center and distribution networks. In addition, Ternium participates in the control group of Usiminas, a leading flat steel company in the Brazilian market.

Our customers range from small businesses to large global companies in the automotive, home appliances, HVAC (heat, ventilation and air conditioning), construction, capital goods, container, food and energy industries across the Americas. We aim to build close relationships with our customers and recognize that our success is closely linked with theirs.

## OUR OPERATIONS

The company's industrial system has varied production technologies that provide a diversified cost structure, based on different types of raw material and energy sources, and a flexible production configuration. The industrial system includes proprietary iron ore mines, steelmaking facilities, finishing facilities, service centers and a broad distribution network to offer slabs, hot-rolled products, cold-rolled products, galvanized and electro-galvanized sheets, pre-painted sheets, tinplate, welded pipes, rebars and wire rods as well as slit and cut-to-length products.

Our broad range of high value added steel products and advanced customer integration systems enable us to

## A COMPREHENSIVE MANAGEMENT APPROACH

- Proactive approach to environment, energy, health and safety management
- Focus on differentiation through sophisticated products and services
- Deep ties with our communities
- Commitment to integrity
- Recruitment, training, and retention of talent
- Quest for excellence in industrial management and technology
- Fostering of steel value chain

differentiate from our competitors through the offering of sophisticated products and services. Ternium's innovative culture, industrial expertise and long-term view enable the company to continuously achieve new breakthroughs in industrial excellence, competitiveness and customer service.

We operate with a broad and long-term perspective, and we work towards improving the quality of life of our employees, their families and the local communities where we operate.

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Ternium S.A. (the "Company") is a Luxembourg company and its American Depositary Shares, or ADSs, are listed on the New York Stock Exchange (NYSE: TX). We refer to Ternium S.A. and its consolidated subsidiaries as "we," "our" or "Ternium."

**TX**  
**LISTED**  
**NYSE**

The financial and operational information contained in this annual report is based on Ternium's operational data and on the Company's consolidated financial statements, which were prepared in accordance with IFRS and IFRIC interpretations as issued by the IASB and adopted by the European Union and presented in U.S. dollars (\$) and metric tons.

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Some of the statements contained in this annual report are "forward-looking statements". Forward-looking statements are based on management's current views and assumptions and involve known and unknown risks that could cause actual results, performance or events to differ materially from those expressed or implied by those statements. These risks include but are not limited to risks arising from uncertainties as to gross domestic product, related market demand, global production capacity, tariffs, cyclicalities in the industries that purchase steel products and other factors beyond Ternium's control.

Ternium's results are subject to risks related, among other factors, to changes in steel demand, prices, input costs and financial conditions. For further information see the chapter "Risk Factors" included in this annual report.

#### **STRONG COMMITMENT TO THE ENVIRONMENT, HEALTH AND SAFETY**

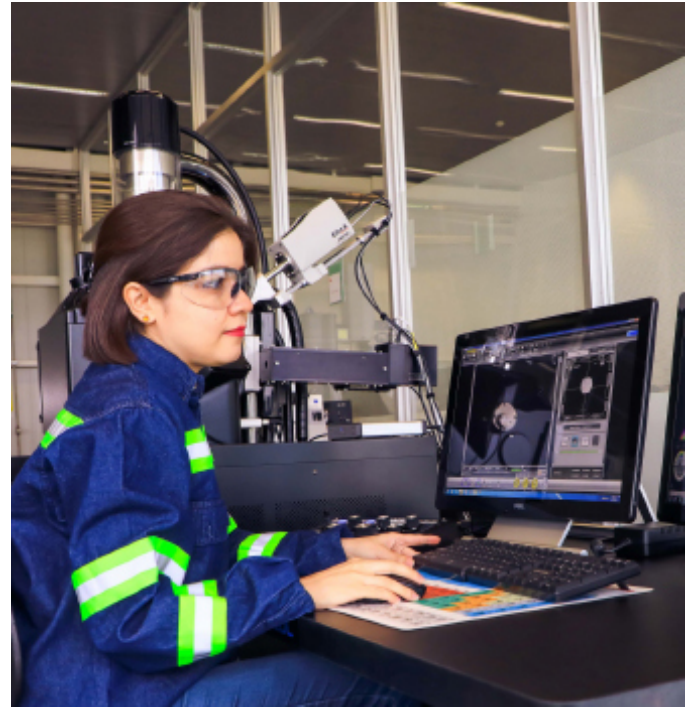
We devote significant resources to environment, health and safety (EHS), as we believe they are key to our long-term sustainability. We have standardized environment, health and safety management systems. We also have an energy savings management system in our Brazilian steel mill and we are advancing the implementation of similar systems in other facilities. Our employees are extensively trained in EHS and our management is accountable for their EHS performance. Ternium's health and safety system is certified under OHSAS 18001, our environment system is certified under ISO 14001 and our energy savings system is certified under ISO 50001. We invest in the best available technologies to reduce our environmental footprint and safety risk.

#### **COMMITMENT TO INTEGRITY THROUGH STRONG CORPORATE GOVERNANCE**

We believe integrity is key to our long term sustainability. We have an audit committee solely composed of independent directors and an Internal Audit Department reporting to the Chairman of the Board and the Audit Committee, which strengthens its independence. We have a Business Conduct Compliance Officer reporting to the CEO and a compliance department that oversees SOX certifications and related party transactions. Our employees are trained and accountable for ensuring a transparent behavior. We have established different policies, codes and procedures for this purpose. In addition, we have confidential channels to report non-compliant behavior.

#### **FOSTERING THE STEEL INDUSTRY VALUE CHAIN IN MEXICO AND ARGENTINA**

We support 1,600 small and medium-sized enterprises (SMEs), customers and suppliers, through our ProPymes program. ProPymes provides training, industrial projects and business consultancy, institutional assistance, commercial support and financial aid. The program plays an active role at universities, business schools, government agencies and industrial associations. ProPymes has helped create an industrial network that encourages the professionalization and quest for excellence of SMEs.



**OUR PEOPLE.** A program for recently-graduated professionals is at the core of a strategy to recruit and retain talent.

#### **DEEP TIES WITH OUR COMMUNITIES**

We believe that having deep ties with our communities is also fundamental to the company's long-term sustainability. We are having a significant positive impact on our communities, both from a human perspective as well as in terms of economic development. We work together with local institutions to enhance their education and welfare. We provide scholarships, internships, teachers' training and infrastructure funding. We also organize and fund volunteering programs and health prevention campaigns, and sponsor sports, social and arts events.



# CHAIRMAN'S LETTER

2018 was a very good year for Ternium. Shipments rose 12% to a record 13 million tons as we incorporated a full year of sales from our new slab producing facility in Brazil. EBITDA rose 40% to a record \$2.7 billion reflecting favorable market pricing conditions as well as the increase in shipments. Net income rose to \$1.7 billion, representing 14.5% of net sales. This included the results of our investment in Usiminas, which had another good year as it continued to improve its profitability and balance sheet. Our financial position was strengthened with net debt reduced to \$1.7 billion ahead of our planned increase in capital expenditures to fund our organic expansion strategy. And we are pleased to propose a further increase in the annual dividend to \$1.20 per ADS.

In a presidential election year in Mexico, with additional uncertainty generated by the ongoing negotiations and ratification of the new USMCA agreement, Ternium's sales in the country remained stable, thanks to its strong positioning in the high value automotive and industrial sectors. Demand was more affected in the construction and infrastructure development sectors reflecting a decline in public and private investment activity. In these conditions, we focused on improving our customer service and strengthening our product capabilities, as well as designing and preparing for the installation of our planned hot-rolling mill in Pesquería. Our investment program over the next two years will focus on building this new mill, which will integrate high quality slabs from our facility in Brazil and enable us to broaden our range of high-end products. During 2019, we will also start-up new galvanizing and painting lines in Pesquería to expand our product offering for the industrial steel markets.

The Roberto Rocca Technical School in Pesquería, Mexico, continues to strengthen its role at the heart of a growing community and open opportunities for young students. Now, in its third year, the school has an almost full complement of 374 students. We have invited other industrial companies in Nuevo León to join us in sponsoring students and offering internships in their operations and have received a strong response. We are proud that a team from the school was invited to the final of the World Educational Robot Contest in Shanghai where it placed 18th out of the 200 finalists from around the world.

The Argentine economy in 2018 was hit by its worst drought in more than 50 years, a tightening of global credit conditions, which drastically reduced the availability of foreign credit, and continued lack of growth in the neighboring Brazilian economy. This resulted in the onset of a deep recession in the second part of the year with a steep currency devaluation and very high interest rates and inflation. Although shipments held up well in the first half of the year, overall shipments declined 8% year on year with recovery not expected before the second half of 2019.

In this respect, in November 2018 ProPymes launched in Argentina a new program to help our small and medium-sized customers boost exports to offset weakening local sales. Through our constant support of ProPymes, we are working to strengthen the industry value chain in Argentina and Mexico, by supporting smaller suppliers and customers build operations that can be globally competitive and giving them access to resources through our financial strength, global positioning and focus on training and education. We support 1,600 small and medium enterprises through this program and this year, with the economic situation in Argentina, our support has been particularly relevant.

In Brazil, we completed what has been a highly successful integration of the CSA slab mill with the rest of the Ternium industrial system, accompanied by a deep interchange of best practices. Production of steel slabs rose to a record 4.6 million tons as we focused on increasing equipment availability and reliability, improving labor productivity and reducing costs. The further integration with our production system in Mexico will bring additional opportunities for efficiencies and improving our product offer in the coming



years. In addition, we completed the certification of our Rio de Janeiro's environmental management system under ISO 14001. This achievement has enabled us to reach a 97% certification rate based on total employees and contractors working in our steel making and steel processing facilities throughout Ternium.

We have updated Ternium's environmental and energy policy to incorporate additional elements on energy efficiency management in line with ISO 50001, an energy efficiency management standard under which our Rio de Janeiro unit is already certified. We also participated in the launch of a new program, led by worldsteel and the International Energy Agency, to identify the best available technologies to reduce the industry's carbon emissions.

In Colombia, we advanced with our investment plan to install a rebar mill with annual capacity of 520,000 tons, which is expected to start up in the second half of 2019. This investment will enable us to reduce imports and increase our participation in the dynamic Colombian construction sector. We performed preliminary work on the field to preserve wildlife before starting the construction of the new facilities in a drive to reduce our footprint as much as we can. We continuously seek the highest standards of environmental and energy performance as a basis for sustainable development for our employees, our communities and future generations.

Our safety indicators continue to improve. We are absolutely committed to improving all aspects of our safety performance. We pursue this through implementing the most rigorous international standards throughout our operations, constantly working to improve risk awareness and align employee behavior patterns with these fundamental values, and investing to modernize our facilities.

We have a rich agenda in front of us with the planned transformation of our industrial system and product development capabilities through our expansion project in Mexico and implementation of Industry 4.0 manufacturing technologies. As a leading industrial company in Latin America, we aim to set new standards in industrial and technological excellence, customer service and competitive differentiation.

Our performance over the past years together with our highly motivated team of professionals position us well for the challenges in front of us. Looking ahead, I would like to stress the high levels of uncertainty in the political and economic environment we are facing in our main markets, as well as the impact of the recent Vale tailings dam accident in Brazil on the pricing and logistics of iron ore supply for the steel industry. In our mining operations in Mexico, while we had already introduced stricter standards to the stability studies and as a result carried out reinforcements in certain areas of Peña Colorada's tailings dams, we will continue to review the stability and enhance the monitoring of our dams.

I would like to thank our employees for their efforts and achievements during the past year. I would also like to thank our customers, suppliers and shareholders for their continuing support and confidence in our company.

March 18, 2019



Paolo Rocca  
Chairman

# ECONOMIC & FINANCIAL HIGHLIGHTS

## RECORD RESULTS IN 2018

Ternium produces flat and/or long steel products in Mexico, Brazil, Argentina, the United States, Colombia and Guatemala. We report steel shipments under three geographical regions: Mexico, the Southern Region (encompassing the steel markets of Argentina, Bolivia, Chile, Paraguay and Uruguay) and Brazil and Other Markets (referred to in this document as Other Markets).

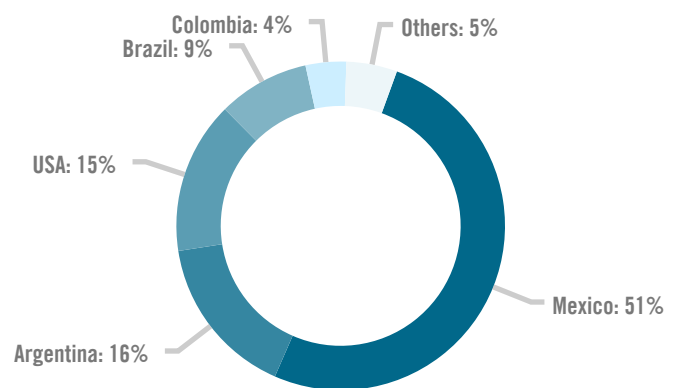
During 2018, shipments in the Mexican market were 6.5 million tons, representing 51% of Ternium's total steel shipments. The Mexican manufacturing sector performed well in 2018, yet the country's construction market remained weak reflecting low public and private investment. Shipments in the Southern Region reached 2.3 million tons in 2018, or 18% of Ternium's consolidated shipments in the steel segment. Most of Ternium's shipments in the region are destined for the Argentine market. Activity levels in Argentina's manufacturing and construction sectors have declined since September 2018, following a solid performance during the first half of the year. By year-end 2018, activity levels were significantly lower than those recorded in December 2017. Shipments in the Other Markets region reached 4.1 million tons in 2018, or 32% of Ternium's consolidated shipments in the steel segment. Our major shipment destinations in the Other Markets region are the United States, Brazil, Colombia and Central America.

Net sales of steel products in 2018 increased 18% compared to net sales in 2017, reflecting a 1.4-million-ton increase in shipments and a \$47 increase in steel revenue per ton. Shipments have increased mainly as a result of the consolidation of Ternium Brasil since September 2017, partially offset by lower demand for steel products in the Southern Region, and slightly lower shipments in Mexico. Revenue per ton in 2018 was higher than in 2017 as a result of higher steel prices in Mexico and in Other Markets.

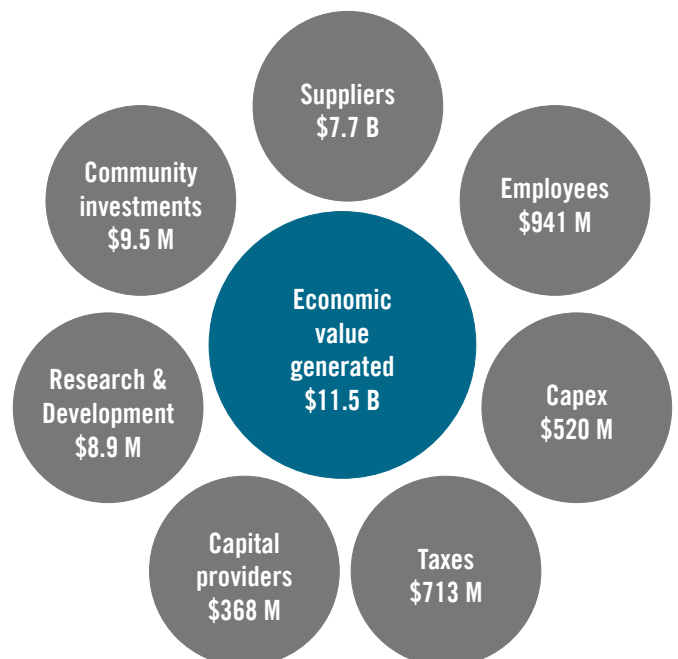
EBITDA rose 40% to \$2.7 billion in 2018. EBITDA margin reached 24%, remaining at an industry-leading level. Net income attributable to Ternium's equity owners was \$1.5 billion, or \$7.67 per ADS, a 70% increase year-over-year. In 2018, the company's capital expenditures were \$520.3 million, \$110.8 million higher than in 2017, including the effect of the consolidation of Ternium Brasil since September 2017. The main investments carried out during the period included those made in new hot-rolling, hot-dipped galvanizing and pre-painting production capacity in the company's Pesquería industrial center in

Mexico, improvement of environmental and safety conditions at certain facilities, the upgrade and expansion of two hot strip mills, the expansion of connectivity and equipment automation, and those made in Peña Colorada's iron ore operations.

STEEL SHIPMENTS (2018)



ECONOMIC VALUE GENERATED AND DISTRIBUTED (2018)



	2018	2017	2016	2015	2014
<b>STEEL SALES VOLUME (THOUSAND TONS)</b>					
Mexico	6,544.8	6,622.8	6,405.2	5,933.4	5,632.2
Southern Region	2,301.1	2,456.0	2,220.8	2,552.2	2,510.9
Other Markets	4,105.2	2,517.7	1,138.1	1,114.6	1,238.5
<b>Total</b>	<b>12,951.1</b>	<b>11,596.6</b>	<b>9,764.0</b>	<b>9,600.3</b>	<b>9,381.5</b>
<b>FINANCIAL INDICATORS (\$ MILLION)</b>					
Net sales	11,453.4	9,700.3	7,224.0	7,877.4	8,726.1
Operating income	2,108.4	1,456.8	1,141.7	639.3	1,056.2
EBITDA <sup>(1)</sup>	2,697.7	1,931.1	1,548.6	1,073.1	1,471.0
Equity in earnings (losses) of non-consolidated companies <sup>(2)</sup>	102.8	68.1	14.6	(272.8)	(751.8)
Profit before income tax expense	2,031.6	1,359.8	1,118.5	267.1	234.9
Profit (loss) for the year attributable to:					
Owners of the Parent	1,506.6	886.2	595.6	8.1	(198.8)
Non-controlling interest	155.5	136.7	111.3	51.7	94.6
<b>Profit (loss) for the year</b>	<b>1,662.1</b>	<b>1,022.9</b>	<b>706.9</b>	<b>59.8</b>	<b>(104.2)</b>
Capital expenditures	520.3	409.4	435.5	466.6	443.5
Free cash flow <sup>(3)</sup>	1,219.0	(25.5)	664.1	856.8	62.4
<b>BALANCE SHEET (\$ MILLION)</b>					
Total assets	12,547.9	12,122.6	8,322.9	8,062.6	9,690.2
Financial debt	2,037.0	3,221.9	1,218.6	1,521.0	2,164.8
Net financial debt <sup>(4)</sup>	1,734.9	2,748.3	884.3	1,132.3	1,801.5
Total liabilities	5,063.3	6,269.8	3,156.3	3,259.6	4,055.5
Capital and reserves attributable to the owners of the parent	6,393.3	5,010.4	4,391.3	4,033.1	4,697.2
Non-controlling interest	1,091.3	842.3	775.3	769.8	937.5
<b>STOCK DATA (\$ PER SHARE/ADS<sup>(5)</sup>)</b>					
Basic earnings (losses) per share	0.77	0.45	0.30	0.00	(0.10)
Basic earnings (losses) per ADS	7.67	4.51	3.03	0.04	(1.01)
Proposed dividend per ADS	1.20	1.10	1.00	0.90	0.90
Weighted average number of shares outstanding <sup>(6)</sup> (million shares)	1,963.1	1,963.1	1,963.1	1,963.1	1,963.1

<sup>(1)</sup> EBITDA is operating income adjusted to exclude depreciation and amortization.

<sup>(2)</sup> Equity in earnings (losses) of non-consolidated companies includes in 2014 and 2015 impairment charges on the Usiminas investment of \$739.8 million and \$191.9 million, respectively. No impairment was registered in 2016, 2017 and 2018.

<sup>(3)</sup> Free cash flow equals net cash provided by operating activities less capital expenditures.

<sup>(4)</sup> Net financial debt equals total financial debt less cash and cash equivalents plus other investments.

<sup>(5)</sup> Each ADS represents 10 shares.

<sup>(6)</sup> Shares outstanding were 1,963,076,776 as of December 31 of each year.



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**CONSOLIDATING OUR LEADERSHIP IN THE MEXICAN FLAT STEEL MARKET.** A new hot-dipped galvanizing facility and a new painting line that includes the most advanced painting technology in Mexico for high-end steel products.

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**350,000**  
TONS

Annual hot-dipped galvanizing capacity.

**120,000**  
TONS

Annual painting capacity.

**\$280**  
MILLION

Total investment.

**2019**  
EXPECTED START UP



# INNOVATION

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**WE FOSTER** and reward breakthrough initiatives in our quest for excellence and improvement. Our teams are at the helm of our efforts to transform our industrial systems and business models in this high-speed change era.

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We strive to run safe operations, creating value for our customers, increasing productivity, enhancing the value chain's competitiveness, achieving a highly efficient and sustainable industrial base and establishing a long-term presence in thriving communities. These tasks require our commitment to a continuous quest for excellence and improvement, and a culture of innovation throughout our organization. We believe that a fresh approach to old and new challenges and staying up-to-date with the fast-paced changes in technology are key elements required to achieve step changes in our activities, including health and safety management, environmental stewardship, energy efficiency, product and process development, training design and community improvement.

The "Ternium Innovates" program is a contest that encourages our employees to team up to develop new ideas. This program is one of many initiatives that seek to foster a spirit of innovation. In this contest, we choose winners according to their ability to improve the way the company does things in four main areas: quality, workplace climate, productivity and safety. A committee reviews the ideas presented by the different teams, many of which are selected for implementation.

#### ADVANCING OUR DIGITAL TRANSFORMATION PROCESS

Since Ternium's origins in 1969, with the inauguration of the Ensenada manufacturing unit in Argentina, our company has acquired various steelmaking and steel processing facilities in Mexico, Brazil, Argentina, Colombia, the United States and Central America. The implementation of Ternium's business model, a coordinated industrial system able to offer a wide range of products and differentiated services to its customer base, required a significant digital transformation effort. The start was a set of diverse information technology (IT) systems inherited from each of the acquired companies. For example, the acquisition of Hylsamex and Grupo Imsa in Mexico, in 2005 and 2007, respectively, required the consolidation of 28 different information technology systems into one single system. With that target in mind, within a couple of years, we brought our company online in real time with a single unified information technology system spanning all of our facilities. Once this process was over, Ternium extended its digital tools to its customers and suppliers, enabling the integration of our

processes with theirs. We developed and launched a digital marketplace called "WebService". Today, approximately 80% of Ternium's commercial customers use this tool to achieve an efficient interaction with us.

In May 2017, after a two-year preparation process, our company certified its IT system under the ISO 20,000 standard. This standard describes the best practices in the management of an organization's IT processes and services. This certification process has helped the company to optimize costs, resources and processes, enhance customer satisfaction, strengthen the performance assessment of our information technology system, increase compliance with multiple regulations, and increase overall business competitiveness. All of these technologies need to be protected by appropriate cybersecurity controls. Cybersecurity is one of the cornerstones of Ternium's digital transformation. In addition to extending the connectivity of our manufacturing processes within the processing plants, we are connecting devices to the Internet (internet of things) and performing big data analytics on the enormous



**INSPECTION AT HEIGHT.** The drone technology replaces manual inspection, thus eliminating complex tasks.

## WEBSERVICE, AN INNOVATIVE DIGITAL PLATFORM

Webservice has transformed the way in which many customers interact with Ternium, offering differentiated services to strengthen our partnership. It has 75 functions covering the entire customer relationship process, such as:

- mobile product catalogs
- order placement (end-to-end orders, sale from stock, or bidding and auction)
- production monitoring
- inventory monitoring
- transportation tracking
- on line payment (direct connection with banks)



**IN-HOUSE MONITORING.** Ternium runs its own 24/7 monitoring center to oversee all operations and services.

amount of data generated by our production lines. All these new technologies require to be adequately protected against unauthorized access.

Currently, we are moving towards the construction of a SMART factory, the acronym for Social, Mobile, Analytics, Robotics and (internet of) Things. This concept, supported by Ternium’s information technology platform, ensures a constant stream of knowledge and information (data and events) that will lead our facilities to a more productive and efficient evolutionary stage. Users achieve a more efficient performance by interacting from any location (offices, facilities or elsewhere) through different kinds of devices. Over 1,000 employees working in our industrial and commercial areas are equipped with mobile devices that enable them to perform all their tasks from anywhere with a remarkable increase in productivity.

Analytics and data correlation detect patterns for various applications to increase safety and efficiency, and to reduce costs. Through video-feed analysis (machine learning), new applications include real-time detection and reporting of unsafe situations or behavior within the facilities to prevent accidents and, using drone technology, the identification of potential damages in either tall structures or confined spaces, whether internal and external, as well as the assessment of bulk material stockpiles.

Drone technology replaces human inspection at height and minimizes the risks inherent to this type of task. We are implementing a project consisting of the installation of 600 cameras for tracking operations in our Argentine and Mexican facilities through video analytics allowing the implementation of an early alarm system. The ultimate objective is to be able to react based on the early detection of deviations from protocols and to prevent accidents.

In addition, radio frequency identification (RFID) technology enables the automated handling of steel products in the yards, speeding up logistic operations and increasing safety. The aim of Ternium’s RFID project is to identify and track each coil from the moment it reaches the yards until shipment, making inspections easier, improving inspectors' safety and reducing operations



timeframes. The tracking system has already been implemented in five stockpile yards in Mexico and is being implemented in another twelve yards in Mexico and Argentina. In May 2018, Ternium received an RFID project award granted by U.S. RFID Journal in the Best Logistics/Supply Chain RFID Implementation category.

In the maintenance area, analytics and data correlation technology has proved its potential with the prediction of failures two to three weeks in advance. Our objective for 2019 is to apply this technology to shield the strategic equipment of our continuous casters and other continuous mills, significantly reducing non-operational interruptions and, therefore, the impact on the production process. In order to support Ternium's analytics needs across all business functions, we are building a single technological platform, known as "Data Lake" platform, that meets all our big data and analytics requirements. Other projects aimed at improving safety and productivity are the use of virtual reality software for training purposes, the use of augmented reality for experts

providing remote assistance to operators, 3D printing and the use of 3D scanning for several applications. We have also developed virtual reality software to train employees on risk perception. This software simulates risky situations in 3D, depicting potential sequences that could end up in fatal accidents. In addition, we have successfully finished the proof-of-concept stage for replacing on-site crane training exercises with VR training facilities, simulating the cabins of the three types of cranes used by Ternium: magnetic crane, hook crane and dump. Moreover, we have developed a virtual reality software to train our personnel on specific operating procedures performed in the secondary metallurgy area of our steel shop in Argentina. We are also developing a project in Mexico to train employees in water leakage protocols and in projects to improve productivity using digital twin technology. This technology generates a digital replica of physical assets, processes, people, places, systems and devices that can be used for various purposes.

Ternium has two administrative robots in operation, running automated processes and tasks in the areas of



**VR TRAINING.** Virtual reality offers a safe environment to train employees and avoid operational interruptions.

accounts payable, accounts receivable, sales back office and industrial engineering administration. We are advancing projects to gain productivity in accounts payable tasks in Mexico and Argentina, where more than 50% of all suppliers' invoices are expected to be loaded in our systems using robots.

**A COLLABORATIVE APPROACH TO RESEARCH ACTIVITIES**

Steel is a highly versatile metal, offering a wide space for product innovation. For example, over 70% of the structural steel parts used to build a car today involve solutions that simply did not exist 20 years ago. Ternium's production strategy is based on offering a complete range of value-added, high-end products, with an emphasis on creating and manufacturing increasingly sophisticated steel products for new applications and industries.

The properties of the steel products required by our customers are usually the result of a combination of their metal composition and the way metal gets processed into finished steel products. Ternium has identified synergies in collaborating with its customers in the early stages of their projects. Anticipating our customers' upcoming steel product requirements, through our participation in joint development projects, is key not only to build customer

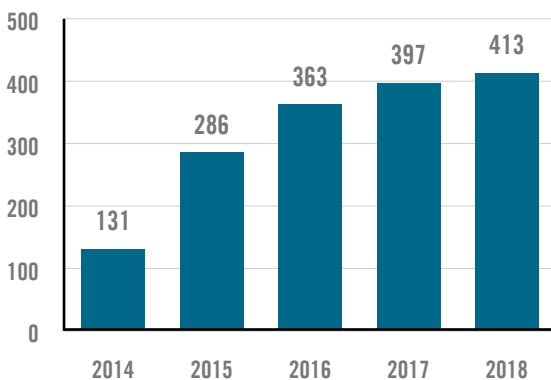
relationships but also to plan and develop new processes, which may sometimes require the incorporation of new equipment and technology.

At Ternium, we carry out applied research efforts in different ways. We develop steel products through in-house programs, joint projects with leading industrial customers, joint efforts together with recognized universities or research centers, or through our participation in international consortia.

Ternium's research programs are open to a broad-based international network of industry consortia. Over 50 universities and research laboratories from both the public and private sectors collaborate with us. The goal is to find and develop the best solutions to support an agenda aimed at achieving better and more sustainable steel. The research spans the entire production cycle, from primary steelmaking and metallurgy, to rolling and galvanizing. In 2017, Ternium joined WorldAutoSteel, an organization comprising 22 of the world's major steel producers. Under the auspices of worldsteel, the group regularly updates the automotive industry on upcoming new steel capabilities available to meet their design and manufacturing requirements.

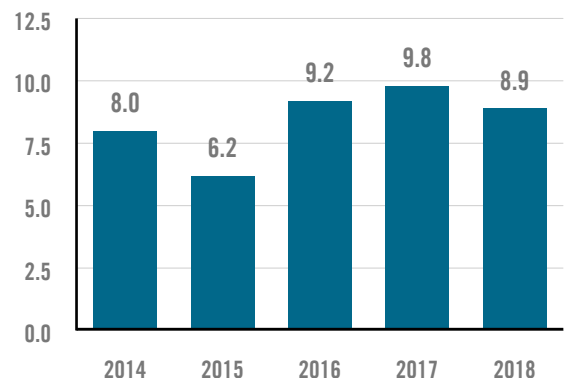
**AUTOMOBILE INDUSTRY CERTIFICATIONS**

Number of certifications approved



**INVESTMENT IN PRODUCT RESEARCH AND DEVELOPMENT**

\$ million





## NEW LABORATORY.

During 2018, we inaugurated a new laboratory in Pesquería, Mexico, to strengthen our product research capabilities for high-end industrial requirements.

# 140

NEW PRODUCTS / YEAR

Developed through joint projects with customers and institutions.

Over the last five years, Ternium has achieved an average of 100 product development projects per year in partnership with industrial customers, and a total of 40 research projects involving university researchers and students from some of the world's most prestigious institutions. We have been increasingly engaging universities in our research efforts in order to expand and further diversify Ternium's research network and capabilities. This initiative fosters the development of fundamental knowledge and know-how at participating universities while enabling the optimization of Ternium's in-house research resources. In 2018, approximately twenty undergraduate and postgraduate students pursuing degrees in engineering, materials science and metallurgy took part in the program.

### INVESTING TO INCORPORATE NEW EQUIPMENT AND TECHNOLOGIES

The inauguration of the Ternium Industrial Center in Pesquería, Mexico, in 2013, gave way to an intensive

product development period. We widened our product range offering to include sophisticated high-end steel products required by the manufacturing industry, particularly automotive manufacturers. These developments were made possible with the incorporation of new production technologies to our industrial system through the new Pesquería unit. Furthermore, the installation in 2015 of state-of-the-art cooling technology in our hot strip mill in our Churubusco unit, Mexico, has allowed developing and processing new advanced high-strength steel grades, including dual phase, ferrite-bainite, martensitic and complex phase grades. Based on these new capabilities, we have further widened our high-end product portfolio for customers in the automotive, metal-mechanic, home appliance, oil & gas and electric motors industries.

# HEALTH & SAFETY

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**SAFETY FIRST** (*primero seguridad*), two words and a statement to convey a primary value for the company. Our employees have a mandate to observe this value and promote and share our policies with our communities.

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Ternium has a policy guiding its efforts to achieve excellence in occupational health and safety. According to this policy, the assessment of risks and management of our people's health and safety must be integrated in all our business processes. Management is responsible and accountable for achieving excellence in health and safety performance as part of a comprehensive set of goals. Ternium ranks occupational health and safety performance as its top priority with the conviction that all injuries and work-related illnesses can and must be prevented. Each of our employees' and contractors' health and safety is our top concern, and nothing justifies putting people at risk.

Ternium has a unified health and safety management system to oversee its production units. The company periodically certifies its procedures, which helps us find new opportunities to improve our safety management systems and ensure their compliance with our policy. Ternium's steelmaking and steel processing facilities in Mexico, Argentina, Colombia and Guatemala are certified under the Occupational Health and Safety Assessment Series (OHSAS) 18001 standard, a concerted effort by leading national standards bodies, certification bodies and specialist consultancies to develop high quality management systems.

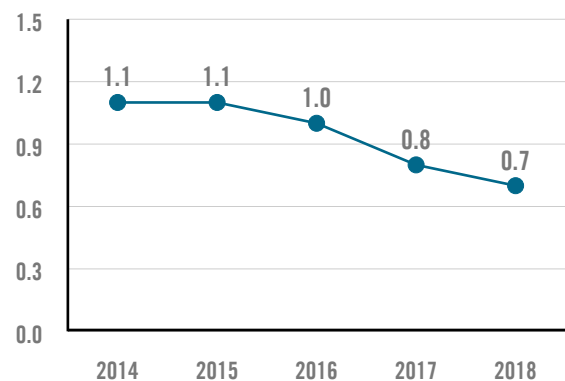
Our new facility in Rio de Janeiro, Brazil, is implementing new health and safety tools within its management systems, leveraging on the experience we gained in other facilities. During 2019, this new management system will undergo ISO 45001 certification. While ISO 45001 draws on OHSAS 18001, it is a new and distinct standard due to be phased in gradually over the next three years. In addition, we are working on the certification process of our mining facilities in Mexico.

Management strives to foster a corporate culture embodying values centered on safety as an integral part of its everyday life, as unsafe behavior is the main cause of safety incidents and accidents in our plants. We are committed to training all our employees and contractors on the appropriate application of the company's health and safety management systems in performing their tasks, and to raising awareness of risks. In 2018, the company delivered 564,341 safety training hours to 18,609 employees and contractors.

**ON THE RIGHT PATH.** Ternium's safety indicators have improved over the course of the years concomitant with our relentless quest for zero incidents and accidents.

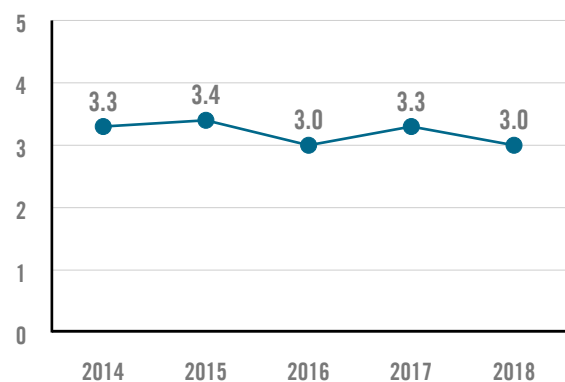
#### LOST TIME INJURIES FREQUENCY RATE

Quantity of day-loss injuries per million hours worked



#### INJURY FREQUENCY RATE

Total quantity of injuries per million hours worked



### SAFETY FIRST

Our Safety First program shows a number of initiatives to foster a more comprehensive safety culture to prevent incidents and accidents. Under the Safety Hour program, middle and senior managers tour operating areas for an hour, three times a week, talking to employees about safety conditions in their working environment. This exchange helps identify potential risks and enables a fluid and constructive feedback to implement effective preventive measures. In 2018, the company held a total of 116,347 Safety Hour sessions, with the regular participation of 1,016 employees and contractors, which helped to detect, record and correct 87,112 deviations.

### TEN LIFE-SAVING RULES

Ten Life-Saving Rules is a document that consolidates the main principles of Ternium's safety program. It lists ten basic actions that all employees must follow in order to protect their own lives and those of their colleagues. The rules are the result of a process that included the contribution of focus groups together with different stages of analysis to detect the main causes of risks in our operations. These rules also reflect the scope of safety regulations in the countries where our company operates, and are backed by specific behavioral procedures and routines that must be followed. The Ten Life-Saving rules have been extensively communicated throughout Ternium's operations to foster employees' and contractors' awareness, and are in addition audited to ensure their observance. In 2018, we held 63,774 Ten Life-Saving Rules compliance audits.

### SAFETY MANAGEMENT OF CRITICAL FACILITIES AND PROCESSES

Iron ore mining, steelmaking and steel processing activities include potentially hazardous processes. With the assistance of DuPont, a renowned authority in industrial safety, we performed a diagnosis and identification of process hazards at critical processes in our facilities in Mexico, Argentina, Brazil and Colombia, and developed safety management tools for those critical processes. We are now working on the sustainability of the prevention system to continue consolidating a safe administration of our critical processes.

In addition, in 2018 we adopted stricter standards to assess tailings dams, and as a result the dams of our joint

### TERNIUM'S ANNUAL SAFETY DAY.

Since 2014, every July 22nd we have been holding our Annual Safety Day, a special occasion to prompt a renewed commitment to improving safety and increasing risk awareness, in the belief that every accident can and must be prevented.

During this event, we hold safety management meetings and discussions to review our performance in the past year and agree on concrete action to improve safety in every facility.



venture with ArcelorMittal are being reinforced. Following the collapse in January 2019 of a tailings dam at a mine operated by Vale S.A., or Vale, in Brumadinho, Brazil, we decided to conduct new studies on the stability of our dams and on the dams of our joint venture with ArcelorMittal. Together with this, we are reanalyzing all operating and emergency protocols in connection with our mining activities.

# OCCUPATIONAL HEALTH AND SAFETY POLICY

Ternium, an integrated steel company, along with its subsidiaries is committed to the occupational safety and health of its personnel, clients, contractors, and suppliers.

The company's occupational safety and health policy is the baseline for sustainable development across all its operations.

Policy adherence, dissemination, and compliance apply and are to be promoted throughout Ternium and its subsidiaries.

Looking out for the occupational safety and health of every person who works for the company or is inside its facilities is an essential value.

To that end, we promote our commitment through the following principles:

All work-related injuries and illnesses can and should be prevented.

Compliance with all applicable legal and other regulations to which Ternium voluntarily agrees.

Continuous improvement of all processes related to staff's health and safety.

Occupational safety and health must be integrated into all company processes.

No emergency situation, production process or results justify putting people's occupational safety or health at risk.

Commitment from and training of the entire staff is essential.

Working safely is an employment condition.

Every person is responsible for looking after his/her own safety and the safety of others.

In each company, everyone is responsible for occupational health and safety:

The company provides the means and resources for activities to be carried out safely so as to preserve everyone's physical integrity and occupational health.

Managers are in charge of the occupational health and safety of everyone who works for them or is in their area.

All other workers must comply with regulations and instructions, and work with their managers to detect, control, and resolve any dangerous situations.

Contractor companies and their staff must comply with the Safety Regulations in force at the facilities where they provide services.

People who enter the facility must comply with the applicable Safety Regulations.

Health and Safety staff must take preventive measures through support, advising and auditing.

At Ternium and its subsidiaries, these principles are shared throughout the entire value chain and in all the communities where it operates in order to promote people's healthcare and safety.

March 2018



Máximo Vedoya  
CEO  
Ternium

# ENVIRONMENT

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**WE GROW** our business to meet the demand for more and better steel products. In doing so, we take care of our footprint through continuous progress in environmental performance and the use of best available technologies.

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The protection of the environment is a fundamental value for Ternium. Our goal is to reach the highest standards of environmental performance in order to minimize the environmental footprint of our operations. To achieve this, we are continuously working on the improvement of our integrated production system. Our Environmental and Energy Policy, approved in 2014 and updated in 2018, states our views regarding the preservation of the environment.

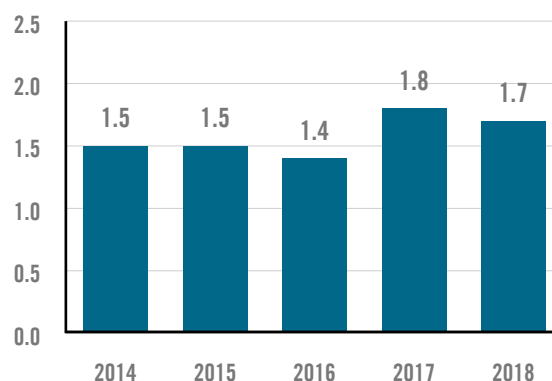
As stated in our policy, the monitoring of our activities leans on a unified environmental management system throughout all our production units. We periodically audit and certify our systems and procedures. This process helps us to identify improvement opportunities, update our environmental management processes and make sure we comply with the latest legal regulations.

Our environmental management system is certified under ISO 14001. This standard was created by the International Organization for Standardization, a network of national standardization institutes that work together with governments, the industry and consumer representatives with the purpose of supporting the implementation of an environment management plan in public and private organizations. In 2018, we completed the certification of our new facility in Rio de Janeiro, Brazil. This achievement has enabled us to reach a 97% certification rate based on total employees and contractors working in our steel making and steel processing facilities.

Our Rio de Janeiro unit has, in addition, an energy efficiency management system certified under ISO 50001. The aforementioned update of Ternium's Environmental and Energy Policy in 2018 formally integrates energy efficiency concepts and establishes the principles for the implementation of energy efficiency management systems in all our production units. During 2018 we started implementing a newly developed energy efficiency system in our steel making facilities, which we expect will help us maximize our efforts to reduce carbon emissions. These efforts are in line with those of the countries in which we have operations and contribute to achieving the goals of the Paris Agreement of the UN's climate change conference.

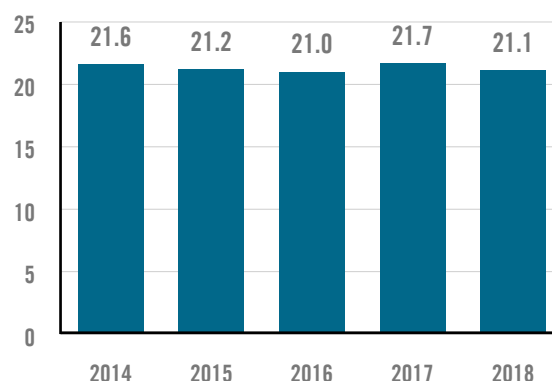
#### EMISSION INTENSITY

Carbon dioxide emissions per ton of steel produced. Year-end.



#### ENERGY INTENSITY

Gigajoules per ton of steel produced. Year-end.



## ENERGY AND CLIMATE

The steel industry is energy intensive. There are two main technologies for producing steel: the blast furnace / basic oxygen furnace (BF/BOF) route, which consumes mainly iron ore and uses metallurgical coal as its main energy source; and the electric arc furnace (EAF) route, which consumes mainly steel scrap and/or direct reduced iron and uses electricity as its main energy input. Direct reduced iron is produced out of iron ore and uses natural gas as its energy source. According to worldsteel, the world average carbon dioxide emission per ton of liquid steel, which depends on the efficiency of the facilities and the mix of steel production technologies, reached 1.8 tons in 2018.

In 2018, Ternium's steel production technologies included the BF/BOF route with a 63% participation, the EAF route with direct reduced iron feed and steel scrap with a 30% participation, and the EAF route with full steel scrap feed with a 7% participation. Ternium's average carbon dioxide emission per ton of liquid steel, including direct and upstream energy and other emissions, was 1.7 tons in 2018. The incorporation of our Rio de Janeiro steel mill (BF/BOF) increased our emissions rate since 2017, due to a higher share of BF/BOF route in steel production.

The steel industry has a strong commitment towards the reduction of greenhouse gas (GHG) emissions. According to worldsteel, in the last 50 years the steel industry reduced its energy consumption per ton of steel produced by 60%. In addition, the development of new steel product designs has enabled the use of lighter structures with improved resistance and performance. Yet, steel production accounts for approximately 8% of all human-made GHG emissions.

As members of worldsteel, we are signatory of its sustainability policy and join its efforts, through our participation in several programs, to reduce carbon dioxide emissions. As a participating member, we submit to worldsteel our performance indicators to contribute to its statistics and databases, which enable steelmaking companies to benchmark performance, share best practices and ultimately set improvement plans for their industrial processes.

In 2008, worldsteel launched its Climate Action Recognition Program. Since then, Ternium has been collecting and reporting its carbon dioxide emissions to worldsteel. In 2018 we participated in the launch of a new program, led by worldsteel and the International Energy Agency, with the purpose of creating a technology roadmap for iron and steel. This new initiative will help identify the best available technologies to reduce the industry's carbon dioxide emissions.

As part of our initiatives to reduce GHG emissions, in 2014 we launched an energy efficiency program aimed at identifying opportunities and implementing energy savings solutions at our production facilities on a continuous basis. Under this program we have completed 265 projects that, in the aggregate, have reduced our yearly carbon dioxide emissions by approximately 123,000 tons.

## AIR QUALITY

The steelmaking process, under the main production routes, is intensive in the generation of particulate material, nitrogen oxides and sulfur oxides. Some of our facilities, like the Ternium Industrial Center in Pesquería, adopted the best-available technologies from the design phase. In other facilities, particularly those we acquired, we are consistently adopting the best-available technologies as part of our drive to continuously improve our environmental performance.

These improvement plans require significant investments in new equipment, such as de-dusting systems, material and scrap-handling facilities or briquetting facilities to clean and recycle material recovered from air emissions. Over the last four years, we have made investments of over \$90 million to improve the capture and treatment of air emissions, especially in our Guerrero and Apodaca mills in Mexico, and our Manizales mill in Colombia. In 2018, we advanced our projects for a new de-dusting system at our steel shop in the Puebla unit in Mexico, which we expect to start up during 2019. In addition, we developed an investment plan consisting in the installation of several stations equipped with advanced monitoring technology. This new technology enables the immediate detection and alert of air quality indicators, in order to implement timely preventive actions.

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## ENVIRONMENTAL CERTIFICATIONS

**LEED.** We design our facilities considering the best available building solutions. In Pesquería, Mexico, our technical school and the industrial buildings of our production facilities were certified under the Leadership in Energy and Environment Design Certification standards of the U.S. Green Building Council.

**Clean Industry.** In Mexico, most of Ternium's steel and in-use mining facilities have Clean Industry certificates issued by the local environmental authorities. The standard of this program was created by the Mexican government and emma, a technical rating and standardization institute.



### WATER MANAGEMENT

Water is a scarce resource and we are committed to using it responsibly. We design our water management strategy on a case-by-case basis in accordance with the specific situation at each of our operating sites. Over the last few years, we carried out a series of investments to incorporate best available technologies in the management of water. We have implemented a zero discharge treatment plant from the design stage in our Pesquería unit in Mexico, and we have incorporated treatment plants for sewage water in our Churubusco and Pesquería units in Mexico.

In addition, in our San Nicolás unit in Argentina we invested in new equipment to close the gas scrubbing circuit of a blast furnace, and we developed new runoff water capturing systems for the raw material yards.

### MATERIAL EFFICIENCY

In Ternium we continuously develop strategies to maximize the use of co-products and reduce the production of waste. We believe that the recovery and proper use of co-products is central to the application of circular economy concepts in the steel industry's value chain. The use of co-products reduces the consumption of raw materials and energy, with a positive effect on carbon dioxide emissions and waste generation.

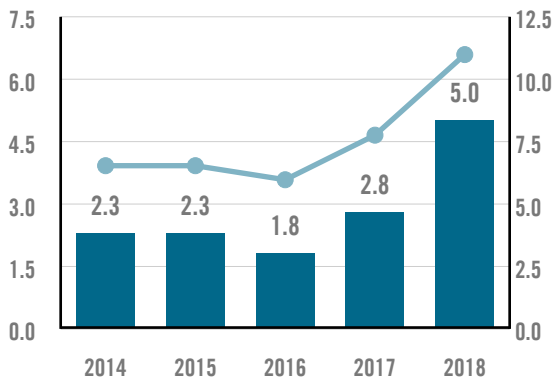
All the steel scrap generated in our facilities is recycled. In addition, we purchase steel scrap generated by other steel processors in our value-chain and by the recycling of steel waste. In 2018, we recycled 2 million tons of steel scrap, including scrap generated in our facilities, to produce new steel with all its properties.

All granulated slag generated in the blast furnaces is sold to the cement industry. The re-use of slag enables yearly carbon dioxide emission savings of 1.0 million tons in the cement production process. Likewise, the slag generated in the steel shop is used to consolidate roads.

In addition, we have sinter and briquetting facilities that enable us to recycle different materials captured by our air and water cleaning equipment, including fines of iron ore, coal, lime and dolomite.

CO-PRODUCTS (T)

Million tons of co-products Million tons of CS production



- Co-products
- Crude steel (CS)

**CARBON DIOXIDE RECYCLING.** Our steel shops in Puebla and Guerrero, Mexico, capture carbon dioxide. The purpose of this innovative solution is to deliver carbon dioxide to the beverage industry for preparing soft drinks. The delivery of recycled carbon dioxide from our facilities enables yearly emission savings of up to 210,000 tons.

The preparation of metallurgical coal for the steelmaking production process yields significant co-product gas volumes. Those gases stem from the distillation process in the coking batteries. We clean those coking battery gases and obtain chemical products that we sell in the market, including tar, benzol and hydrated lime. In addition, the gases obtained from the coking batteries, blast furnaces and, in the case of the Rio de Janeiro unit, the steel shop, once cleaned, are used to provide heat to certain equipment and to produce steam for the generation of electricity. All these processes have enabled us to achieve a material efficiency rate of 99.7%.

**BIODIVERSITY CARE**

Our Rio de Janeiro unit is located near a coastline area rich in mangroves in the Sepetiba bay in Brazil, where we have our own port. We perform our operations while maintaining and protecting the fauna and flora of 600 hectares of mangroves. Likewise in Palmar de Varela, Colombia, before starting the construction of a new steel bar processing facility, we performed preliminary work on the field to preserve the local biodiversity. We defined different areas of ecological connectivity between our terrain and the natural ecosystems. We developed a program to rescue and release wildlife in those areas and we installed wildlife connectivity gates for reptiles, amphibians and small mammals.

**INNOVATION AND RECYCLING - Mix Rock®**

Mix Rock® is an innovative product developed by Ternium in Mexico. The product is obtained through the processing of our steel shops' dust and slag. With this development, we can transform 100% of our EAF dust into a valuable raw material for the cement industry while enabling lower carbon dioxide emission in the cement production process. This project was shortlisted for worldsteel's 2018 steelie awards.



# ENVIRONMENT AND ENERGY POLICY

Ternium is an integrated steel company committed on preserving the environment.

Its goal is to achieve the highest standards in environmental and energy performance as a basis for sustainable development throughout its operations in regards to company employees, the community and future generations. The company has committed to develop a high-quality performance integrated and eco-efficient production system based on continuous improvement.

Caring for the environment is a fundamental value, and its principles are the following:

Compliance with the applicable legislation, as well as any voluntary agreements in relation to environmental protection and energy use, consumption and efficiency.

All levels in each area, throughout the company, are responsible for the results of environmental protection.

The commitment of all our personnel is essential, as is the training provided.

Environmental protection and energy efficiency are responsibilities of Ternium's staff as well as its subsidiaries, suppliers and contractor personnel.

Environmental and energy components are an integral part of the company's management processes.

Continuous improvement in environmental and energy performance is actively promoted through the company, in addition to all the efforts necessary to achieve the objectives and established goals.

Pollution must be prevented at the source, controlling the most significant environmental aspects of our operations and minimizing their impacts and risks.

Promoting the acquisition of energy efficient products, technologies, services and implementing projects that enhance our energy performance.

Use energy and natural resources efficiently.

Encourage the use of best technologies and practices, as well as renewable energies, when feasible.

In each company, everyone is responsible for environmental and energy management:

The company supplies the means and resources to enable compliance with this policy, thereby supporting the sustainability of all operations, depending on the operations context.

All persons entering company facilities, such as own personnel, suppliers, contractors and customers, must comply with this policy.

The company seeks to share these principles throughout its value chain and across the communities where it operates, to promote the protection of the environment, encourage the efficient use and consumption of energy resources and foster an open dialogue with stakeholders.

This Policy applies to Ternium and its subsidiaries. It will be actively disseminated with a view to ensuring compliance throughout the organization.

June 2018



Máximo Vedoya  
CEO  
Ternium



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**GROWTH OPPORTUNITY IN COLOMBIAN LONG STEEL MARKET.** A new reinforcing bar facility to expand our participation in the construction sector in the north/northwest of Colombia, a region with no local steel bar production.

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**520,000**

**TONS**

Annual hot-rolling capacity.

**\$90**

**MILLION**

Total investment.

**180**

**EMPLOYEES**

To work in the new facilities.

**2019**

**EXPECTED START UP**

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# HUMAN RESOURCES

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**WE FEEL STRENGTHENED** as we grow and achieve an increasingly diverse employee base across the Americas. We work on long-term strategies to maximize their potential leaning on development and training.

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Over the last decade, Ternium has become a leading flat steel producer in the region by virtue of its main asset: a team of committed, innovative, industrious, diverse and highly qualified individuals. In 2018, Ternium's team was composed of approximately 20,500 persons, the majority of whom are distributed throughout our facilities and offices in the Americas. As Ternium embarks on a new phase of growth for the coming years, we rely on the talent and determination of our people to successfully shape our company in this new stage.

Ternium has a Human Resources policy guiding our efforts in managing talent and attracting, retaining and helping motivated professionals to develop their careers. Ternium is an equal opportunity employer that embraces diversity in its different forms, including age, gender, nationality, race, ethnicity and creed. We believe that the coexistence of diverse perspectives and angles helps our teams achieve rational solutions to challenges and more effectively accomplish their goals.

Over the years, we have grown increasingly diverse and we will continue to welcome and adopt new and different viewpoints. Mexicans, Argentinians, Brazilians, Colombians, Guatemalans and Americans account for the largest share of our team members, yet a total of 31 nationalities are represented among our staff. We have recently launched a Diversity Policy to strengthen our commitment and formalize our initiatives in this field. In addition, our Code of Conduct forbids unlawful discrimination in employment relations and grants all persons the right to apply for a position in the company or to be considered for a new position based on the skills required.

Since 2006, we periodically commission international consultancy agencies to conduct confidential surveys among our employees. The company develops corporate and regional action plans based on the results of those surveys, and tackles areas of opportunity to improve overall labor climate. In 2018 we completed a new poll covering 16,700 employees across our operations, including salaried and hourly employees.

**WORK CLIMATE.** We look for ways to improve our employees' working experience. Innovative programs, such as alternative offices with remote connection and flexible days every month, all year-round, were well received.

**96%**

**OVERALL SATISFACTION**

Surveyed hourly employees, on working at Ternium.

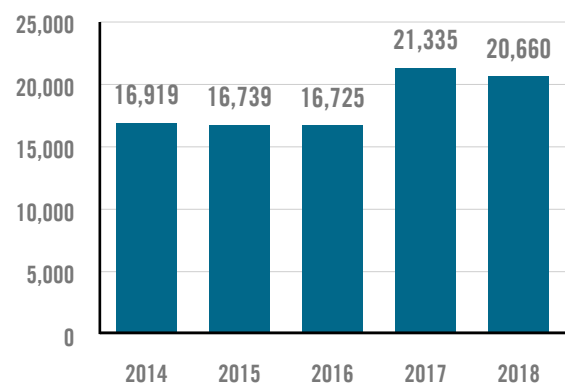
**87%**

**OVERALL SATISFACTION**

Surveyed salaried employees, on working at Ternium.

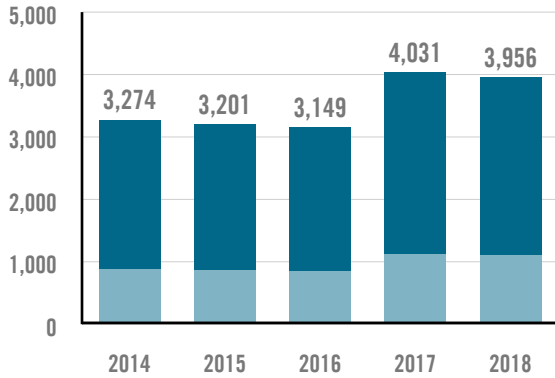
**HEADCOUNT**

# of people



**SALARIED EMPLOYEES BY GENDER**

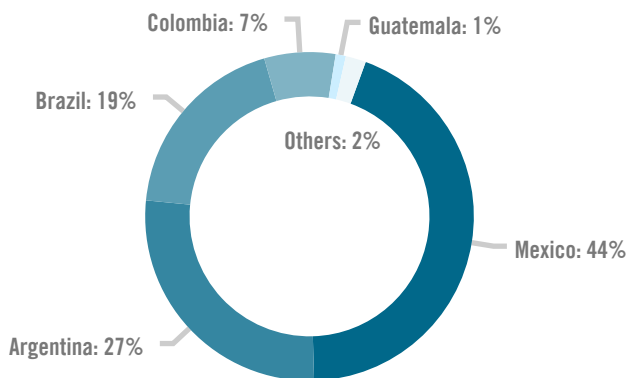
# of people



■ Men  
■ Women

**SALARIED EMPLOYEES BY NATIONALITY**

December 2018



The overall participation rate reached 88% of targeted employees. The findings from the analysis of the poll included the following:

- **Hourly employees.** 96% of surveyed participants indicated overall satisfaction in their responses; 97% stated that they felt proud of working at Ternium.
- **Salaried employees.** 87% of surveyed participants indicated overall satisfaction in their responses; 95% stated that they felt proud of working at Ternium.

In 2018, Ternium's resignation rate was 3%.

**DEVELOPMENT AND TRAINING**

Ternium's constant pursuit of excellence in our operations requires our teams to consolidate and progress in their quest for continuous improvement and innovation. We believe training is a key tool to achieve this goal. Over the last five years, each salaried employee has received an average of 44 hours per year of training and each hourly employee has received an average of 108 hours per year of training, including on-the-job classes.

Ternium's program for professionals spans a person's entire career, from his initial level as a young professional to management levels. Our program for supervisors includes a 40-hour course discussing the components of the supervisory role. This course has received the Excellence in Practice Award from the Association for Talent Development. A total of approximately 1,100 supervisors have completed the course since its launch in 2015. During 2018, our supervisors received an average of 90 hours of training.

The Leaders' Development Program provides dedicated training for the company's current and future leaders. The course is designed to enhance middle management leadership skills, as they advance their careers. Approximately half of the company's middle-level managers have taken part in the program. The leadership course is a joint effort with the EGADE Business School of Monterrey, Mexico, and the Torcuato Di Tella University of Buenos Aires, Argentina. As of year-end 2018, the program involved 61 participants.

**PERFORMANCE MANAGEMENT**

The individual performance of each of Ternium's salaried employees is assessed annually through a formal performance assessment process. There is a link between

the feedback and the final instances provided by the evaluation process, and the different aspects of an employee's corporate life, such as compensation and career development, performance improvement opportunities and training requirements.

Ternium has an IT system to manage its performance assessment processes. The system includes a set of measurable objectives for each employee. This is a key component of the process as it ensures that everyone's goals are in line with the company's objectives and guarantees transparency and fairness in the assessment of each employee's work throughout the year. The set of objectives is assessed through a combination of different sources: the employee himself, internal customers, assessment committees and feedback meetings, as well as mid-year reviews. In addition, the system includes an upward feedback tool for management positions accessible to the manager's supervisor. Although this tool is not

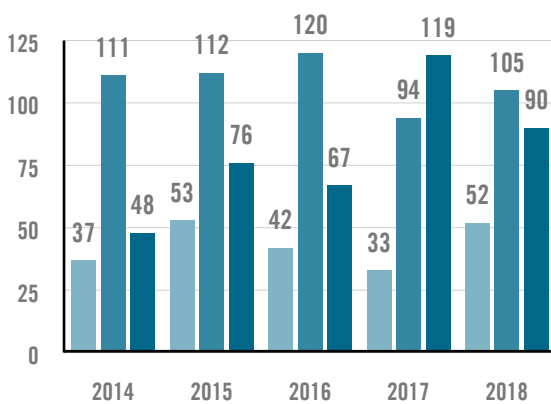
mandatory, 74% of our employees provided upward feedback in 2018's performance assessments, which is an indication of the credibility achieved by Ternium's procedures.

A performance assessment process based on a measurable set of objectives is an important aspect of our Human Resources Policy. It aims at improving our employees' working experience throughout their careers and their relationship with their supervisors.

During 2018, the company introduced new features to enhance its performance assessment systems, which enabled the consolidation of a 360-degree approach to the process. The new features offer employees additional options to provide and receive assessments, including the possibility of submitting spontaneous client-supplier opinions related to specific objectives, and the introduction of more clearly-worded descriptions for the upward feedback review stage.

#### EMPLOYEES TRAINING

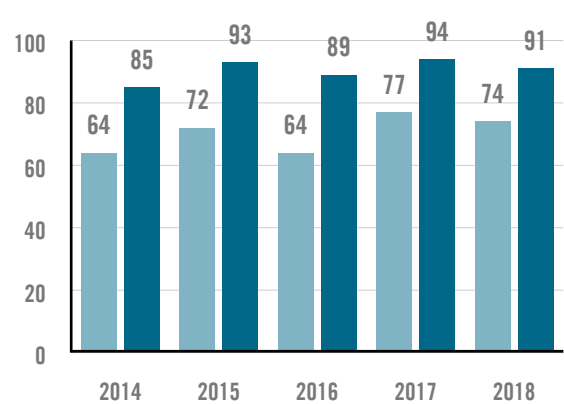
Average hours of training per year and employee



- Supervisors
- Hourly Employees
- Salaried Employees

#### UPWARD FEEDBACK

%



- Employees that evaluated their supervisor
- Supervisors with at least one evaluation

# VALUE CHAIN

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**WE SUPPORT** the development of our small and medium-sized customers and suppliers under a long-term commitment. We understand that the future of our industrial project is connected to that of our communities and value chain.

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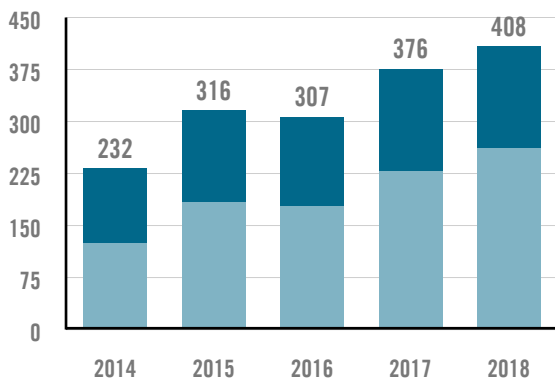


Ternium offers support to small and medium sized enterprises (SMEs) through a program that provides a variety of services, including training, industrial assistance, institutional assistance, commercial support and financial aid. With the participation of approximately 1,600 companies, our program, called *ProPymes*, fosters the industrial value chain in Mexico and Argentina. *ProPymes* has helped create an industrial network that encourages the professionalization and quest for excellence of SMEs, which, based on knowledge sharing, reciprocal learning and exchange of experiences, aims at the implementation along the whole value chain of the best practices utilized in the industry.

*ProPymes* designs and implements an annual training agenda, among other initiatives. The course contents are continuously updated to keep pace with the new requirements of managers and their salaried and hourly employees. Every year the program incorporates additional subjects to the curriculum to meet SMEs' increasingly sophisticated range of needs, as they advance their learning curves. Training activities are performed in-house or at universities or business schools. During 2018, *ProPymes* has sponsored training courses for 4,700 attendants, who spent an aggregate 92,000 hours in class.

**PROPYMES' SPONSORED INDUSTRIAL PROJECTS**

# of projects



■ Mexico  
■ Argentina

*ProPymes'* industrial assistance programs focus on a broad array of issues from the use of automation technology and the optimization of production facilities, to the development of environment, health and safety protocols and human resources management. During 2018, *ProPymes* delivered over 400 industrial projects.

The institutional assistance program helps SMEs develop strategies aimed at ensuring a level playing field in the local market, given the potential threat of increased unfairly traded imports. Assistance efforts included those for the setting of industry chambers, the development of technical standards for industrial products and institutional initiatives aimed at improving SMEs competitiveness. In addition, we help SMEs set their own corporate social programs through the implementation of a support program for technical educational institutes.

**PROPYMES AND INNOVATION.** Under *ProPymes* sponsorship, a trailer manufacturer, a transportation company, a development center and Ternium set up a team to develop high-performance trailers. In 2018, Mexico's Automotive Industry Cluster granted this project its 2018 Award in "Innovation".





**TECHNICAL GENE.** In 2013, ProPymes incorporated Ternium's Technical Gene initiative to its programs.

Aimed at enhancing the quality of technical education, Technical Gene coordinates the efforts of SMEs and their communities to improve technical educational institutes, and train their teachers and students.

Commercial support initiatives include the promotion of commercial ties between SMEs and potential customers in the automotive sector and other industries in our value chain, and assistance in the development process required to become a supplier of a large company. In addition, we offer SMEs to leverage on the Techint Group's global network of commercial offices in order to enhance their market reach.

The financial assistance program aims at fostering investments to enhance productivity and increase installed capacity, taking advantage of government-sponsored low-cost financing instruments. Since its creation through to year-end 2018, the program has financed investment projects of Ternium's customers for an amount in excess of \$100 million.

**WHY AN SME WOULD NEED ASSISTANCE?**

From time to time, Mexico and Argentina suffer periods of economic volatility. One of the consequences of these difficult times is that some industrial companies have no choice but to resize their operations to be able to withstand short-term challenges arising during such conditions. On the path to overcoming a short-term critical situation, their long-term growth strategies suffer. Consequently, their development plans are postponed, they fall behind their learning curves and are unable to reach their growth potential. Ternium believes that its role as a large industrial project is to work with SMEs to help them reach their potential, enhancing their professional, management and financial capabilities, and helping them participate competitively in both domestic and foreign markets.

The ProPymes program was first launched in Argentina in 2002, named after the acronym PYME, which in Spanish stands for SME. In Mexico, the program was introduced four years later. ProPymes institutionalizes the cooperation between Ternium and the company's small and medium-sized customers and suppliers.

#### ADVANCING THE SMEs AGENDA

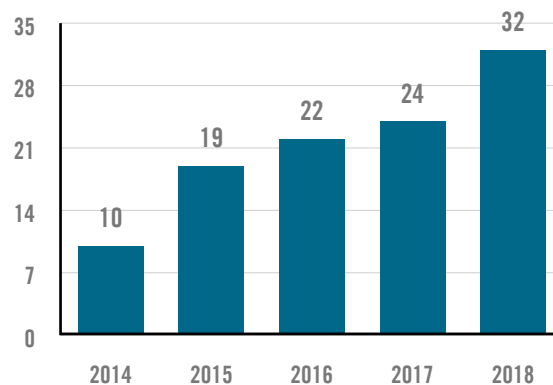
SMEs making up Ternium's value chain are key players for the social integration of their communities, as they generate a substantial share of total industrial jobs. The *ProPymes* program plays an important role in advancing the SME policy agenda in Mexico and Argentina.

Ternium organizes major events under the auspices of the *ProPymes* initiative, bringing SME's representatives together with government officials, economists and journalists to discuss the sector's economic context and outlook. In Mexico, the ProPymes biannual event showcases awards for SMEs excelling in areas such as industrial safety, logistics services, delivery, raw material handling and other services. The occasion also includes a Supplier of the Year award. In Argentina, the event is held every year and features several panels designed to allow SME executives share their experiences and lessons learned.

Since 2017, the Argentine government sponsors the *Ecosistema Pyme* program, or SME Ecosystem, which considers the *ProPymes* program a model to be replicated by other large companies in the support of their value chains. In Argentina, the stories of SMEs that are part of Ternium's *ProPymes* program appeared in video-narrations published in the web platform of one of the country's largest media groups and have been widely circulated on social media. Different companies founders and owners were featured sharing how their enterprises started and grew, the difficulties they had to overcome, and the potential they envisage for the future.

#### PROPYMES SPONSORED TECHNICAL SCHOOLS

# of Schools

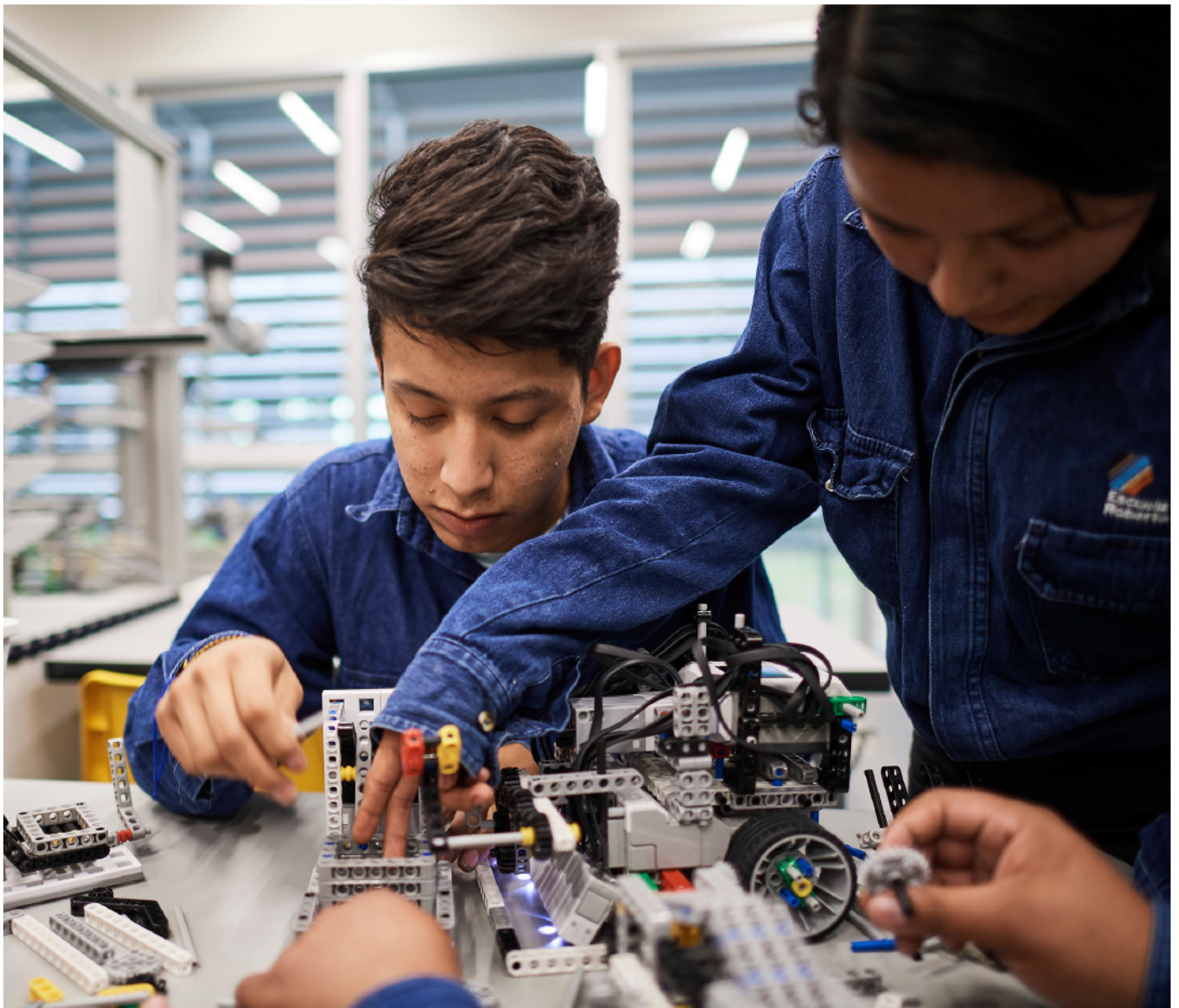


# COMMUNITIES

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**OUR COMMUNITY** programs reflect the values and heritage of our corporate history, emphasizing education as a source of personal and social development, with a special focus on technical schooling.

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With more than seventy years of industrial experience, Ternium's corporate history has inspired our work with our communities along these years, which is guided by an underlying premise: We believe that the long-term success of an industrial project depends on the support it receives from the community around it and on its ability to grow together with its neighbors.

We have developed and carried out several programs in education, arts and culture, health and sports, and social integration areas together with local institutions. We support initiatives that improve life quality and strengthen institutions that foster education and welfare, and promote a culture of hard work, diversity and social mobility.

Access to quality education is limited in several communities in Latin America, resulting in a lack of qualified technicians and professionals required by the industrial sector. On top of this, the industry is going through a technological transformation process, known as Industry 4.0, which demands workers with increasingly sophisticated skills and knowledge. Among our educational initiatives, we devote significant efforts to technical schools, in the knowledge that the steel manufacturing industry seeks to recruit skilled employees who need a solid education all the way through to tertiary level. In 2018, our educational programs accounted for 65% of our total community investment.

#### THE ROBERTO ROCCA TECHNICAL SCHOOL

In 2016, Ternium inaugurated the Roberto Rocca Technical School (ETRR) in Pesquería, Mexico. Our sister company in the Techint Group, Tenaris, opened the first ETRR in Campana, Argentina, in 2013. These modern schools are the spearhead of an international educational network geared towards providing high-quality technical education.

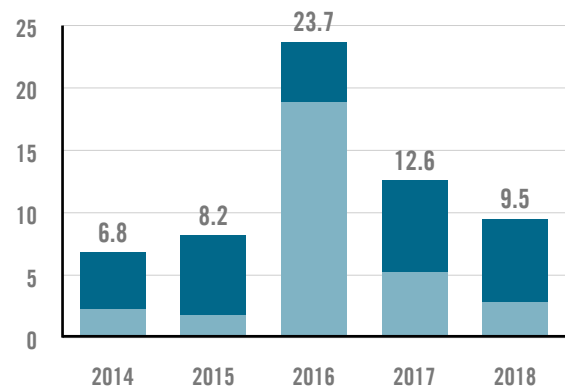
The ETRR in Pesquería offers two specializations, mechatronics and electromechanics. By December 2018, 374 young students were attending classes at the school, a number that is close to its capacity. All students have different levels of scholarships, depending on their needs. The first cohort of students will graduate by mid-2019,

following three years of studies. We have invited other companies in the state of Nuevo León, Mexico, to join efforts to fund scholarships for current and future students. The list of sponsor companies already includes Kia Motors, Corporativo Alfa (and its affiliates Nemak, Sigma, Alpek, Axtel and Newpek), Festo, Techgen, Praxair, Dedutel, Denso and Rheem. The school's students started their internships in the industrial plants of these companies. The ETRR in Pesquería is equipped with state-of-the-art laboratories and classrooms, and the building itself obtained the gold category of the LEED environmental certification awarded by the U.S. Green Building Council. The school uses a Project Based

**SUPPORT IN NUMBERS.** We invested \$60 million in community programs in the last five years, including \$29 million in our flagship educational program, the Roberto Rocca Technical School in Pesquería, Mexico.

#### COMMUNITY PROGRAMS

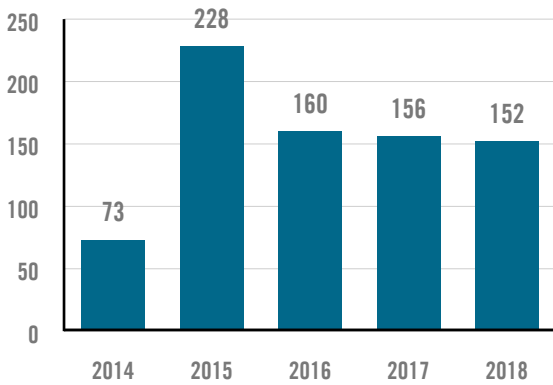
\$ million



■ Ongoing programs  
■ ETRR in Pesquería, Mexico

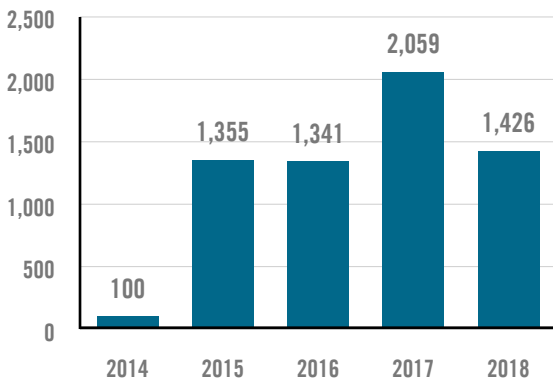
**TECHNICAL GENE PROGRAM – TEACHERS TRAINED**

# of Teachers



**TECHNICAL GENE PROGRAM – PARTICIPANTS**

# of Students



Learning methodology in technical classes, an innovative way to learn and develop teamwork and leadership skills. The ETRRs holds standardized testing for math, reading and socio-emotional skills including items from the Program for International Student Assessment (PISA) Math and Reading tests.

During 2018, five teams from the ETRR in Pesquería participated in the Mexican national championship of the World Educational Robot Contest. One of the teams succeeded to the international final in Shanghai, China, reaching the 8<sup>th</sup> place in its category and the 18<sup>th</sup> place in the overall score among over 200 teams that took part in the contest.

**SPONSORING PUBLIC TECHNICAL SCHOOLS**

At Ternium, we have developed the Technical Gene program designed to support technical education. Under this program, we support several state-run technical schools near our facilities in the Ramallo and Ensenada industrial areas in Argentina, and the Monterrey industrial area in Mexico. This endeavor has contributed to a significant improvement in the training level of graduates. In addition to Ternium, this program involves local governments and the Hermanos Agustín y Enrique Rocca foundation, a non-governmental organization committed to community development.

The program provides technical internships at workshops and at operating areas of the company’s industrial centers. In addition, it organizes technical training programs in the schools, and an annual innovation contest targeting pro-community projects. Moreover, the program offers activities for teachers and managers to strengthen teaching skills and the management of the schools, funds the expansion and improvement of school infrastructure, and provides new technical equipment.

During 2018, we initiated the sponsorship of a new technical school in Mexico. We will start our activities in the new school as soon as we get governmental authorizations. In addition, under this program 146 high-school students completed their internships in our mills in Argentina and Mexico. 110 high-school students participated in the innovation contest in Argentina, in which we evaluated proposals for community projects. In addition, one technical school in San Nicolas inaugurated

a new 468 square meters building, housing the new physical/chemical and electro-mechanics laboratories.

#### **VOLUNTEERING TO IMPROVE BASIC SCHOOLS**

Ternium's employees and their families volunteer to improve local schools infrastructure. Students' relatives, schoolteachers and neighbors join us in the endeavor. Ternium and the Hermanos Agustín y Enrique Rocca foundation, as well as other companies operating in our value chain, provide organization and funding. So far, 29 schools have been revamped in Mexico, Argentina, Brazil, Colombia and Guatemala. During 2018, 1,644 volunteers joined efforts to transform nine schools. Following the integration of the company's new plant in Rio de Janeiro, during the year we undertook our first volunteering activity in Brazil. In 2018, our community programs in Brazil received the *Parceiros da Escola* award from the country's education minister.

We also coordinate help for communities facing natural disasters. During 2018, Ternium and other affiliate companies built 191 houses for families affected by the September 2017 earthquakes in southern Mexico. The

cost of this project was entirely financed by Ternium and its employees.

#### **QUALITY EDUCATION FOR THE COMMUNITIES**

Ternium has different programs aimed at improving skills and education in developing communities near its facilities. We organize workshop academies in Pihuamo, Aquila and Alzada in Mexico. In addition, through the Afterschool program, we provide support to primary schools in San Nicolás de los Garza, Mexico, and in Ramallo, Argentina. The Afterschool program fosters the integration and stay of the students in the classrooms, and seeks to improve the quality of education. The program was very successful, evidenced by a substantial increase in student enrollment and the extension of activities outside school hours. Afterschool also helps improve the schools' infrastructure. In 2018, the school in Ramallo inaugurated a new 273 square meters building, housing three new classrooms and a meeting room. In addition, we provided the required equipment and furniture. The enrollment in this school reached 398 students in 2018, representing a 70% increase since the launch of the initiative.



**VOLUNTEERING PROGRAM.** Ternium's employees and their families volunteered to improve the Japão municipal school in Santa Cruz, Rio de Janeiro, Brazil.

**SUPPORT TO HIGH-SCHOOL STUDENTS**

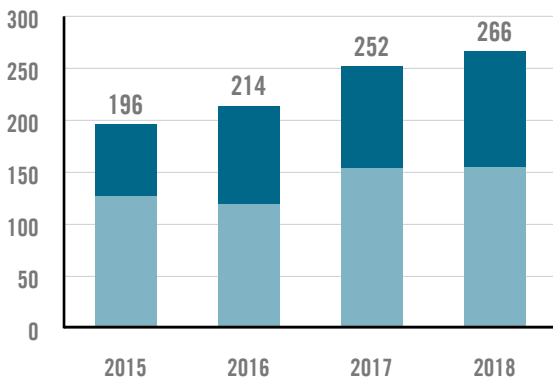
Our Merit Awards program was founded in 1976 in Argentina, making it the longest-lasting program. Initially designed to benefit the children of our employees, in 2007 it was opened up to our communities. The program focuses on fostering academic excellence for high-school students. Scholarships are awarded based on academic performance, attendance and commitment to the educational process. In 2018, we awarded 712 scholarships.

**ROBERTO ROCCA EDUCATION PROGRAM**

Together with the Hermanos Agustín y Enrique Rocca foundation, Ternium funds scholarships for high-school and university students from local communities in Mexico, Argentina, Colombia and Guatemala. The program, called Roberto Rocca Education Program, has awarded fellowships and scholarships since 2005 to promote the study of engineering and applied sciences at undergraduate and graduate level in the countries where we have a major presence. In 2018, the program funded 12 fellowships for students pursuing PhDs and 276 scholarships for undergraduate students.

**AFTER SCHOOL PROGRAM PARTICIPATION**

# of Students



- Argentina
- Mexico

**MERIT AWARDS**

# OF SCHOLARSHIPS

<b>MEXICO</b>	
2018	249
2017	135
2016	200
2015	125
<b>ARGENTINA</b>	
2018	348
2017	298
2016	317
2015	350
<b>OTHER COUNTRIES</b>	
2018	115
2017	111
2016	120
2015	90

**ROBERTO ROCCA EDUCATION PROGRAM**

# OF SCHOLARSHIPS (2018)

Mexico	92
Argentina	163
Colombia	16
Guatemala	5
<b>Total</b>	<b>276</b>

**SPORTS AND A HEALTHY LIFESTYLE**

As part of our drive to promote a healthy lifestyle, we organize the 10K Ternium annual local race in several locations, together with local institutions. In 2018, approximately 4,000 runners participated in the 14th edition of the 10K Ternium in San Nicolás, Argentina; approximately 5,000 runners participated in the 10th edition of the race in Monterrey, Mexico, and over 1,500 runners participated in the 7th edition of the 10K Ternium race in Colima, Mexico. The proceedings from the San Nicolás race, together with matching funds provided by Ternium, are donated to a local hospital. In addition, we organize sport leagues involving schools in

neighboring communities with the participation of thousands of children. On health care initiatives, we organize health fairs, clinical examinations, and disease and addiction prevention campaigns, aimed at increasing the community's awareness and gaining of a basic understanding of how to prevent and take care of various health issues. In addition, the company supports and funds a basic health care unit in Aquila, Mexico, and funds improvements in health care infrastructure in different countries.

#### ARTS AND CULTURE TO FOSTER DIVERSITY AND INTEGRATION

Ternium's Art and Culture program aims to bring the company's diverse cultures together as well as to reinforce the identity of each community. Large audiences enjoy every year's opera, ballet, concert and cinema festivals organized by Ternium together with local institutions.

Ternium's film festivals bring to employees and the community different movies from Latin American producers. In 2018, we held five film festivals in Mexico and Argentina, which were attended by approximately 10,000 persons. In San Nicolás, Argentina, Ternium also sponsors and organizes, along with the PROA Foundation, the Ternium Cultural Program at a local theater in San Nicolás, Argentina.

We also sponsor a photo library program, a way of honoring the history and tradition of the local communities by preserving and sharing their visual memoirs. In a joint effort with community organizations, curators source and compile historic photos into digital archives, painting a unique portrait of the past and present of these communities. As of 2018, the Photo Libraries in the cities of San Nicolás, Argentina, and Monterrey, Mexico, had digitized over 63,000 images.

**10K Ternium race.** A drive for a healthy lifestyle motivates us to organize races along with local entities. Thousands of runners dare beat every year the three and 10-kilometers challenges. The first 10K edition took place in 2008, in San Nicolás. Later on, we launched the race in Monterrey, Colima and Santa Cruz where it also became popular.

**11,500**  
RUNNERS

Participated in  
the 2018 edition.

**14**  
EDITIONS

Since the first race  
in San Nicolás.

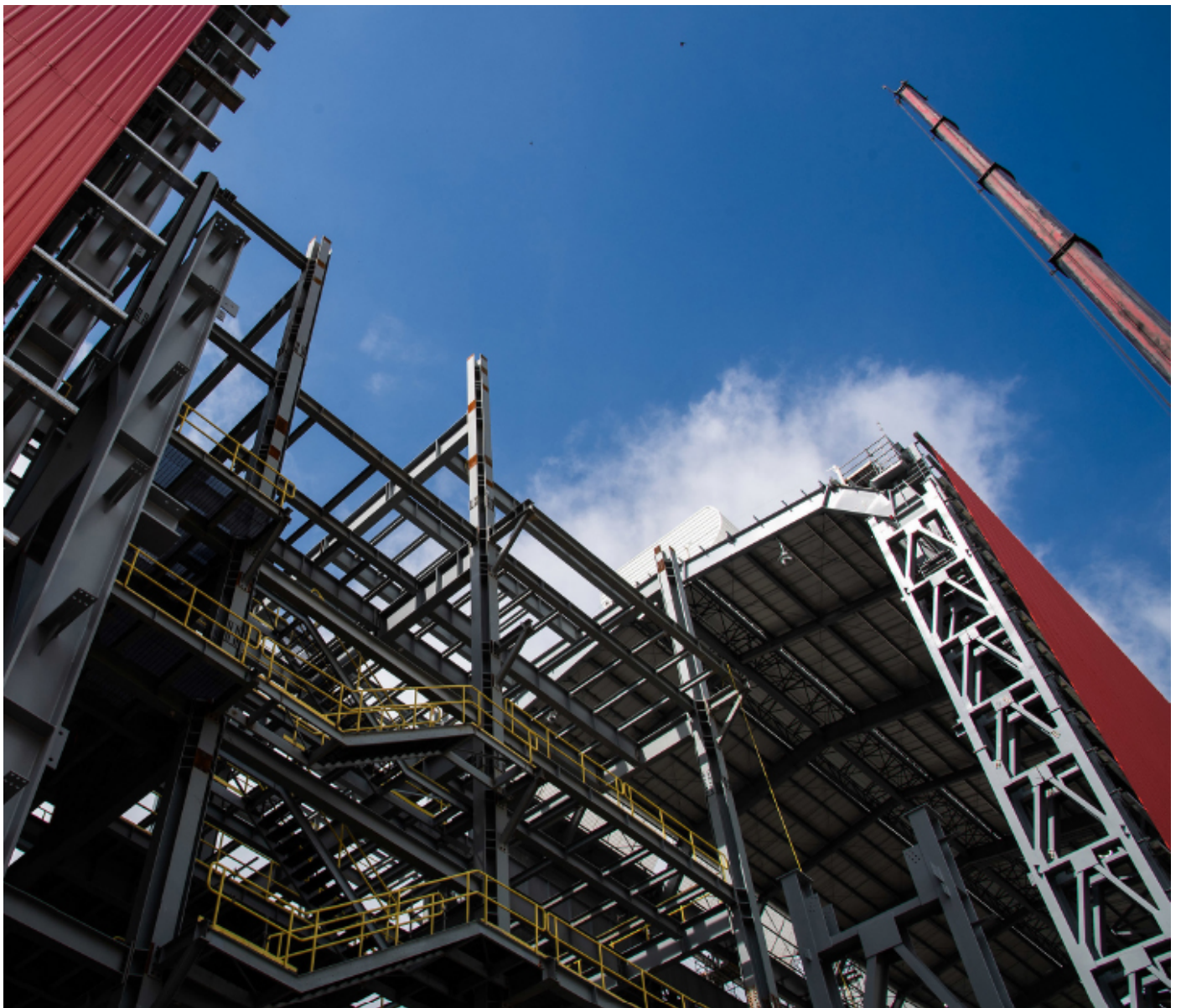


# GOVERNANCE

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**INTEGRITY** is key to the long-term sustainability of our company. With ethical behavior and the observance of law as a core company value, we continuously work on building a corporate culture of integrity.

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Ternium S.A. is organized as a public limited liability company (société anonyme) under the laws of the Grand Duchy of Luxembourg. The Company holds controlling stakes in steel companies operating in Latin America and the Southern United States. San Faustin S.A., the holding company of the Techint Group, an international group of companies, has a 62% controlling interest in Ternium.

San Faustin also has controlling interests in Tenaris, a global supplier of steel pipes and related services mainly for the energy industry which holds an additional 11% interest in Ternium; Tecpetrol, an oil and gas company; Techint, an engineering and construction company; Tenova, a supplier of equipment and technology for iron mining and steel; and Humanitas, a network of hospitals in Italy.

The Company has an authorized share capital of a single class of 3.5 billion shares having a nominal value of \$1.00 per share. The general extraordinary meeting of shareholders held on May 6, 2015 renewed the validity of the Company's authorized share capital until 2020. As of December 31, 2018, there were 2,004,743,442 shares issued and outstanding, of which 41,666,666 are held in the Company's treasury.

The Company's ADSs are listed in the New York Stock Exchange. Each ADS represents ten shares. Holders of ADSs only have those rights that are expressly granted to them in the deposit agreement dated January 31, 2006, among the Company, The Bank of New York Mellon (formerly The Bank of New York), as depositary, and all owners and beneficial owners from time to time of ADRs of the Company. ADS holders may not attend or directly exercise voting rights in shareholders' meetings, but may instruct the depositary how to exercise the voting rights for the shares, which underlie their ADSs. Holders of ADSs maintaining non-certificated positions must follow instructions given by their broker or custodian bank.

Our articles of association provide that our annual ordinary general shareholders' meetings shall take place in Luxembourg, or in a foreign country whenever circumstances of force majeure take place, within six months from the end of the previous financial year.

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## COMMITMENT TO INTEGRITY THROUGH STRONG CORPORATE GOVERNANCE

- Audit committee (three independent directors)
  - Internal Audit Department reporting to the Chairman and the Audit Committee
  - Business Conduct Compliance Officer reporting to the CEO
  - Compliance department that oversees SOX certifications and related party transactions
  - Employee accountability and training to ensure transparent behavior
  - Confidential channels to report noncompliant behavior
-

## SELECT CODES

Code of Conduct

Code of Conduct for suppliers

Code of Ethics for Senior Financial Officers

## POLICIES

Transparency

Business Conduct

Anti-Fraud

Securities Trading

Diversity and Work Environment Free of Harassment

Human Rights

## PROCEDURES

Disclosure Procedure (relevant information)

Transactions Between Related Parties

Conflict Mineral Disclosure

At these meetings, our annual financial statements are approved and the members of our board of directors are elected. No attendance quorum is required at annual ordinary general shareholders' meetings and resolutions are adopted by a simple majority vote of the shares represented at the meeting. There are no limitations currently imposed by Luxembourg law on the rights of non-resident shareholders to hold or vote the Company's shares.

The Company's board of directors is currently comprised of eight directors, of whom three are independent under the articles of association and SEC regulations applicable to foreign private issuers. The board of directors has an audit committee consisting of three independent members. The charter of the audit committee sets forth, among other things, the audit committee's purpose and responsibilities, which include the responsibility to review material transactions with related parties to determine whether their terms are consistent with market conditions or are otherwise fair to the Company and/or its subsidiaries. In addition, the audit committee reports to the board of directors on the adequacy of the systems of internal control over financial reporting.

Ternium has adopted a Code of Conduct incorporating guidelines and standards of integrity and transparency that apply to all directors, officers and employees. In addition, it has adopted a Code of Ethics for Senior Financial Officers, a Transparency Policy governing relationships with third parties, a Policy on Business Conduct, a Code of Conduct for Suppliers, an Antifraud Policy, a Policy on Securities Trading, a Human Rights Policy and a Policy on Diversity and Work Environment Free of Harassment.

Ternium has an internal audit area that reports to the Chairman of the Board of Directors and, with respect to internal control over financial reporting, to the Audit Committee. The internal audit area evaluates and reassures the effectiveness of internal control processes, risk management and governance. Ternium established and encourages the use of a web-based anonymous compliance line to report situations contrary to the Code of Conduct, which operates according to the procedures designed by the internal audit area.



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**ACKNOWLEDGMENT.** All our white-collar employees must confirm that they received and understood our Code of Conduct (CC) and Policy on Business Conduct (PBC), a condition for employment.

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Ternium has a Business Conduct Compliance Officer reporting to the CEO of the Company, who has responsibility for identifying and mitigating corruption risks and fostering a culture of ethical and transparent conduct, and for designing, implementing and supervising a Compliance Program aligned with the requirement of applicable national and international laws against corruption and bribery. The Business Conduct Compliance Program is focused on preventive activities including risk assessment, normative, advising, communications, training, certifications, third parties, monitoring and auditing, discipline and remediation, and benchmarking.

Ternium purchases most of its supplies through Exiros, a specialized procurement company whose ownership we share with Tenaris. Ternium's suppliers undergo a rigorous process of selection to ensure governance standards are in place, in line with applicable laws and regulations and in accordance with our Health and Safety and Environmental policies and Code of Conduct. Our Code of Conduct for Suppliers covers ethical behavior, compliance with law, and health, safety and environmental stewardship.

# BOARD OF DIRECTORS AND SENIOR MANAGEMENT

## BOARD OF DIRECTORS

Chairman	Paolo Rocca
Vice-Chairman	Daniel Novegil
Directors	Ubaldo Aguirre <sup>(*)</sup> Roberto Bonatti Carlos Condorelli Vincent Decalf <sup>(*)</sup> Adrián Lajous <sup>(*)</sup> Gianfelice Rocca
Secretary	Arturo Sporleder

(\*) Independent Directors and Audit Committee Members

## SENIOR MANAGEMENT

Chief Executive Officer	Máximo Vedoya
Chief Financial Officer	Pablo Brizzio
Ternium Mexico President	César Alejandro Jiménez
Ternium Argentina President	Martín Berardi
Ternium Brasil President	Marcelo Chara
International Area President	Héctor Obeso Zunzunegui
Planning and Global Business Development General Director	Oscar Montero
Engineering, Industrial Coordination and EHS Director	Pablo Hernán Bassi
Quality and R&D Director	Rubén Herrera
Chief Information Officer	Roberto Demidchuck
Human Resources Director	Rodrigo Piña

# INVESTOR INFORMATION

## Investor Relations Director

Sebastián Martí

[smarti@ternium.com](mailto:smarti@ternium.com)

Phone: +54 11 4018 8389

U.S. toll free: 866 890 0443

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29 Avenue de la Porte-Neuve

L2227 - Luxembourg

Luxembourg

Phone: +352 2668 3153

Fax: +352 2659 8349

## Stock Information

New York Stock Exchange (TX)

CUSIP Number: 880890108

## Internet

[www.ternium.com](http://www.ternium.com)

## IR Inquiries

TERNIUM Investor Relations

[ir@ternium.com](mailto:ir@ternium.com)

## ADS Depositary Bank

BNY Mellon

Proxy services: BNY Mellon Shareowner

Services

P.O. Box 505000

Louisville, KY 40233-5000

Toll free number for U.S. calls:

+1 888 269 2377

International calls: +1 201 680 6825

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